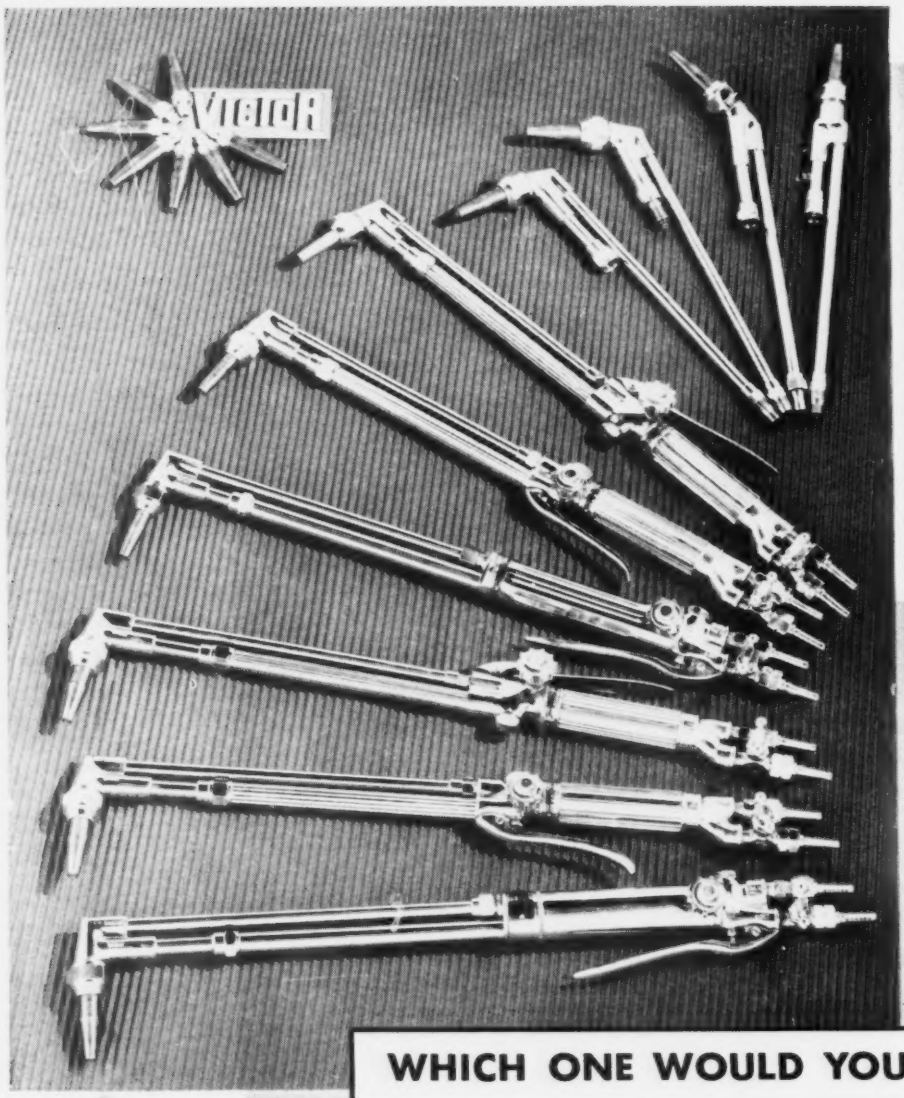
WESTERN INDUSTRY

• Douglas Fir plywood panels from the Pacific Northwest, flexible, light and strong, serve a multitude of construction uses.

Twenty-Five Cents VOLUME XI NUMBER 1 January, 1946



WHICH ONE WOULD YOU CHOOSE?

COMFORT TOO SAVES MONEY

Give your burner a cutting torch with the maximum comfort value. Some prefer the high pressure valve lever on top, some on the bottom, some in front and some in the rear of the torch. Which of these VICTOR hand cutting torches do you like the best? Of one thing you can be sure—no matter what the choice, VICTOR cutting torches are designed for maximum operating speed and minimum ownership cost.

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VICTOR EQUIPMENT COMPANY

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Ad 134

HOW TO SAVE CONCRETE FLOORS FROM DUST AND DISINTEGRATION

BY A SIMPLE SCRATCH TEST you can prove that untreated concrete floors *will* disintegrate!

However, by treating concrete floors with LAPIDOLITH Liquid, they *can* be thoroughly wearproofed and dustproofed... with little more effort than is required for a simple washing.

FOR PAINTING FLOORS... Cemcoat Filler and Dustproofer in colors and transparent, a durable coating for protecting and decorating cement or wood floors!

FOR FINISHING WOOD FLOORS... Lignophol is a one-application preservative wood finish which resists moisture, molds, fungi and wood-destroying organisms... gives lasting beauty, economically!

FOR PATCHING AND RESURFACING FLOORS... Sonomend is the new, easy way to resurface rough, splintery wood floors... cracked, rutted and pitted cement floors!

FOR CLEANING FLOORS... Mag-I-san whisks away practically every type of dirt from every type of floor!

LAPIDOLITH Liquid penetrates into the concrete and chemically produces a granite-like hardness. When subjected to traffic, the treated floor is virtually immune to dusting and disintegration.

Tests have proven that LAPIDOLIZED floors remain in perfect condition for years... and floors become waterproofed and oilproofed at the same time! Countless testimonials praise its effectiveness.

A call or note to us will bring a trained floor expert to your desk. He will gladly give you his recommendations on your particular floor problem.

• • •

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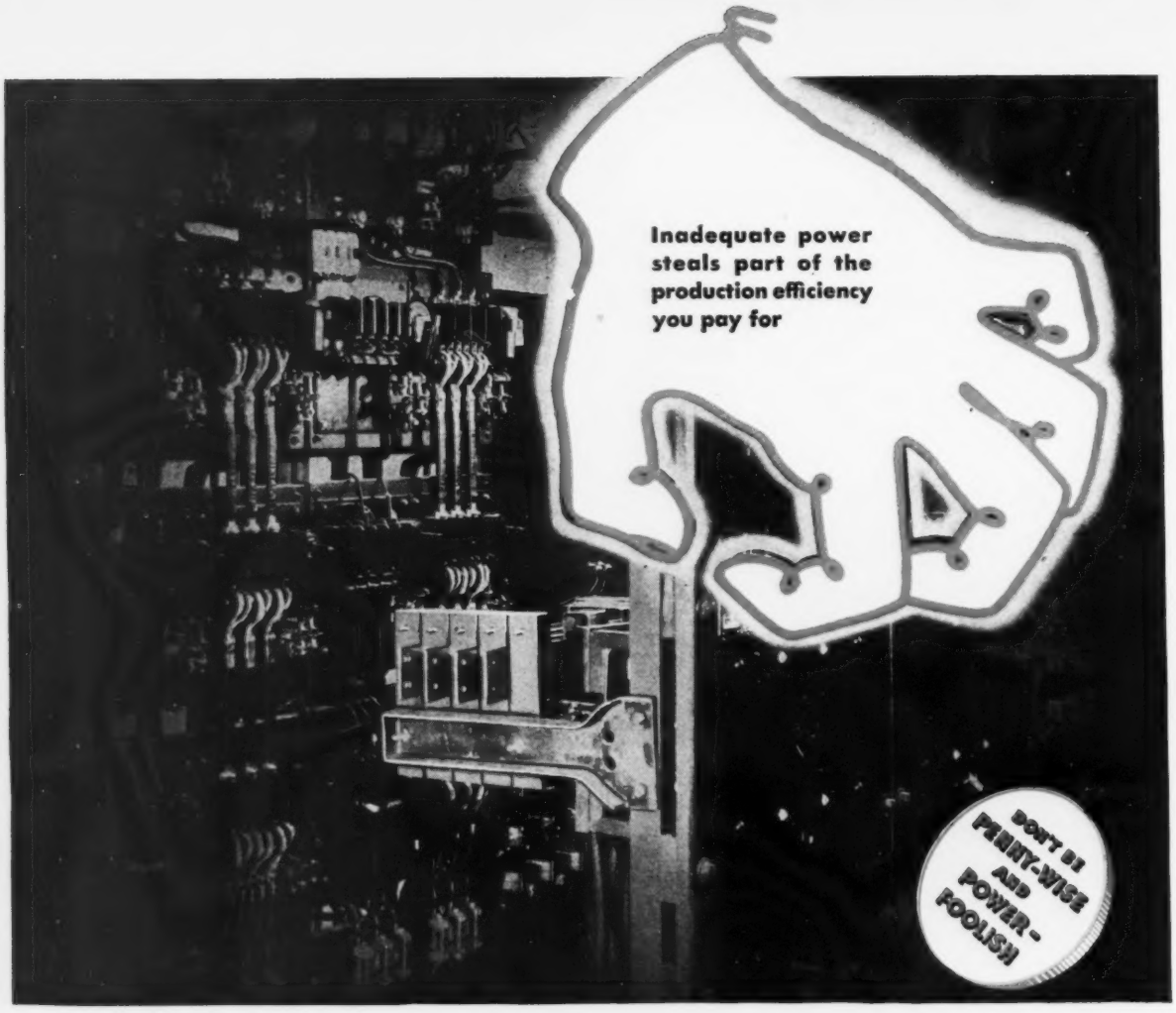
FOR ANY FLOOR PROBLEM — CALL WESTERN ASBESTOS CO.



Backward wiring handicaps advanced equipment

...Wire ahead

DON'T HOBBLE new, improved equipment for the sake of saving a few extra dollars worth of wiring.

Remember, to get peak efficiency from postwar production equipment wiring must come first—foresighted wiring to provide for greatly expanded power needs to come.

Check your wiring plans now. Avoid costly alteration shutdowns later. Call in your consulting or plant power engineer, electrical contractor or power salesman. Hear what *they* say about the wisdom of soundly planned wiring and service equipment. Anaconda Wire & Cable Company, Subsidiary of Anaconda Copper Mining Company. General Offices: 25 Broadway, New York City 4. Chicago Office: 20 North Wacker Drive 6. Sales Offices in Principal Cities.

✓ Check your wiring plans before they check you!

ANACONDA WIRE & CABLE COMPANY

EDITORIAL COMMENT

Management At Fault

IT SEEMS rather silly that a nation which could be so astoundingly successful in winning a war on two fronts, thousands of miles away from the homeland, building a marvelously smooth-running organization of 10 million men and women almost overnight and linking it up with an even larger civilian labor force, with no fear whatever for the outcome, should be so baffled by the job of readjusting the postwar wage structure. The situation has a ludicrous similarity to the woman who puts an armed burglar to flight but screams and climbs up on a chair at the sight of a mouse.

If management is to blame, through failure to understand the necessity of keeping wage levels up to a point that gives the employee a decent standard of living and sustains the general purchasing power, it is high time for management to discover its mistake and make amends. If it does not, it is committing suicide.

If labor is at fault, through stubbornly refusing to abandon wartime pay that cannot survive in competitive postwar markets, management is still to blame for the disturbed situation, because it has failed to do a selling job with both the leaders and the rank and file of labor.

To rush in at the last minute with frantic statements, threats and promises is not selling labor (or the public either, for that matter) on the soundness, intelligence and fairness of private enterprise. Yet that is exactly what management does most of the time in regard to labor relations, as was pointed out in this column two months ago and in the leading article in the December issue.

Instead of sending its industrial relations and personnel managers to educational conferences, top management should hold some conferences of its own where hair would be let down and conditions honestly analyzed. If top management cannot trust itself to make an impartial analysis, then call in some industrial consultants with instructions to get the facts, just as is done with a firm of certified public accountants. Out of such a fact-finding conference might be expected to come a wage policy that could be sold to labor.

To The Rescue Of The Patent

MUCH of the adverse publicity given the present American patent laws tends to create the impression that a patent is inherently an unsocial device, a means for enabling the "haves" to oppress the "have-nots." Dr. Robert A. Millikan, noted physicist and president of California Institute of Technology, puts a tiny but potent speck of atomic explosive under that warped theory in the following words: "It is the most effective agency ever devised for preventing the inventor from depending upon secrecy for his protection against those who would otherwise steal his ideas and his brain children. He is induced to exchange that kind of unsocial protection for the social protection afforded by our patent laws."

Now, Therefore, Be It Resolved

OUR publisher asked the editorial staff to make some New Year's resolutions, so the first solemn promise we made to ourselves (and the boss) is that we will keep our desks clean (at least one-third of the time). Second, we will be kind to the printer (when he handles our stuff promptly; when he doesn't . . . well, that's something else.) Third, we have ordered a bigger waste-basket for Grade Z releases from advertisers and advertising agencies. Fourth, we really haven't any more, but the printer wanted another line to fill the column, so we wrote this sentence.

WESTERN INDUSTRY

CONTENTS FOR JANUARY, 1946

Editorial Comment	5
In Our Mail Box	7
Spotlight on the News	25
Assets and Liabilities in Western Employment Picture	27-28
Tax Avoidance—And Legal, Too	29-31
Atomic Bombs—1,000 Times Greater	32-34
Negroes in the West	35-37
What Not to Do in Wage Negotiations	37
South Americans Have Money for the West	38-40
Training Programs Should Be Continued	40
Western Steel Lacks Skilled Labor Supply	41
Geneva a Luxury Now; A Necessity—Later	41
Correct Color Can Mean More "Black Ink"	42
X-Rayed Plant May Cut Amino Acid Cost	43
Deep Freezing Tools	44-45
Frozen Food Packaging is Now Automatic	46
Washington Correspondence	47-48
Westerners at Work	50-52-54
Regional Reviews:	
Sierras to the Sea	56-57
Tehachepi to Tijuana	58-60
Olympics to the Coeur d'Alenes	62-63
The Columbia Empire	64-65
Continental Divide	66-69
The Wasatch Front	70-71
Labor and the Industrial West	72-75
The Western Outlook: News and Statistics	76-78
Efficiency Kinks	79
The West On Its Way	80-91
Western Trade Winds	92-93
The Showcase	94-96
Yours For the Asking	97-98
Advertisers' Index	98

OUR COVER PICTURE

• Typical of scenes in the plywood industry is this taken at the Harbor Plywood Corporation plant at Hoquiam, Washington. The picture shows a step in the operation of producing plywood panels for which industry is experiencing a steadily mounting demand.

25c PER MONTH $2.00 PER YEAR

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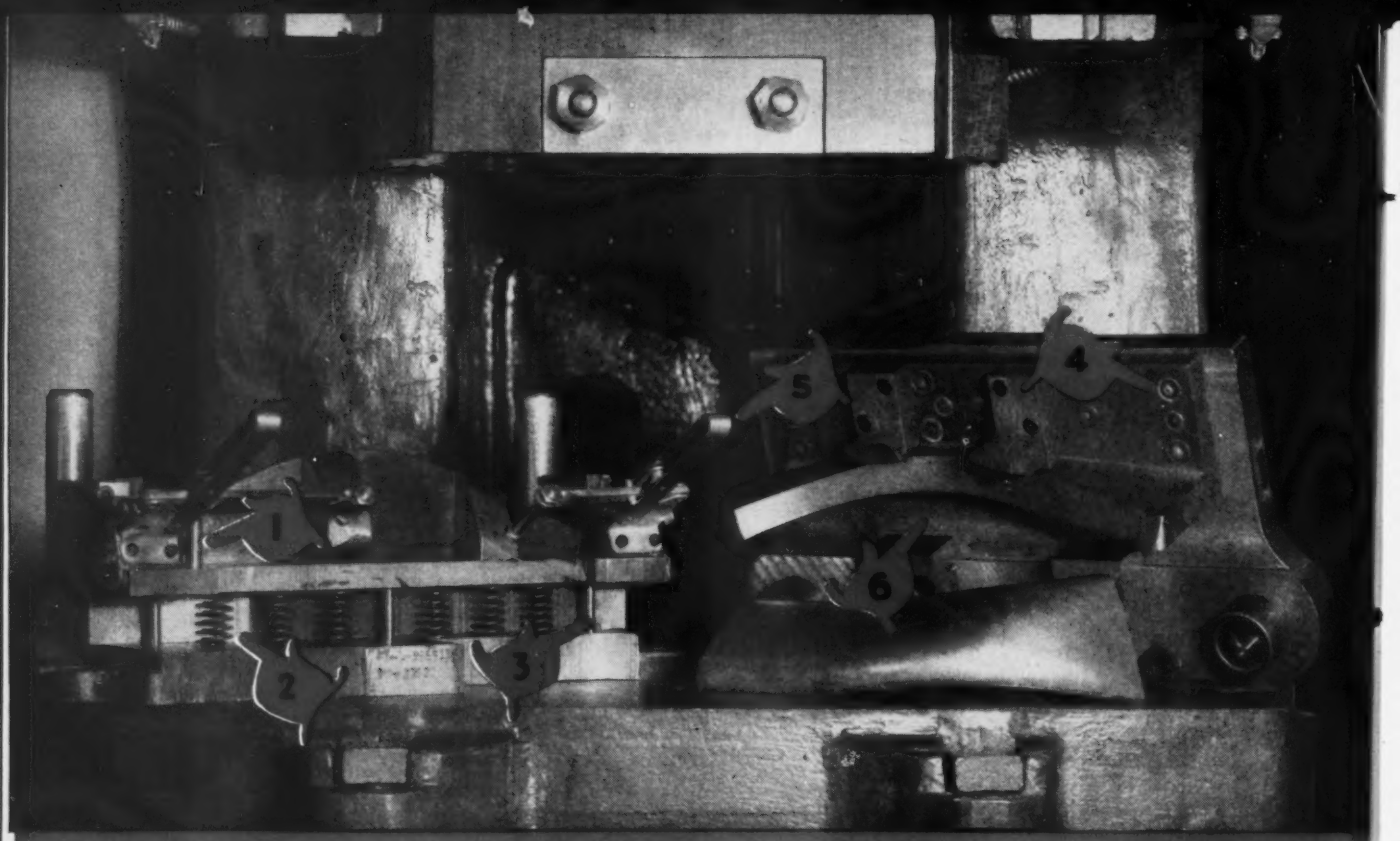


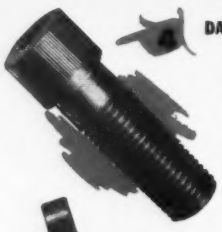
THE 6 DANLY PRODUCTS IN THIS PICTURE

FIT INTO MANY PLACES IN YOUR PICTURE

DANLY PRECISION DOWEL PINS have a big job to do in the Steel, Non-ferrous metals and Plastic Industries. Accurate through their length, there will be no expensive re-drilling and reaming, because Danly Precision Dowel Pins are diamond tested for hardness and ground to a tolerance of one-ten thousandth of an inch . . .

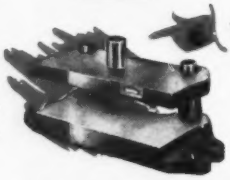
DANLY DIE SPRINGS are noted for *staying power*. The repeated pressure of the ram many times every hour induces fatigue that will snap ordinary die springs—and that means tearing down the whole setup. Two complete lines. *MEDIUM PRESSURE—HIGH DEFLECTION; HIGH PRESSURE—MEDIUM DEFLECTION.*

DANLY SOCKET-HEAD STRIPPER BOLTS incorporate the same advantages as the Danly Knurled Socket-Head Cap Screws. Busy fingers don't slip on the knurled head . . .



DANLY KNURLED SOCKET-HEAD CAP SCREWS save time and money. Here's why: Oily fingers readily grasp the knurled head—the mechanic can drive it a good part of the way by hand before using the wrench. Infinite applications—a wide range of sizes . . .

DANLY KWIK-KLAMP TOGGLE CLAMPS are versatile, all-around utility clamping tools. Strong construction combined with simplicity of operation makes Kwik-Klamps a must wherever quick, positive clamping action and known pressures are desired . . .



THE DANLY DIE SET needs no introduction. A *must* for precision stamping, Danly die sets are once more paving the way to that new washing machine and electric iron in every home—that new car in every garage . . .

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Danly Tool, Die and Gage Makers' Supplies

In Our Mail Box

Steel Costs

Editor, Western Industry:

Many thanks for sending me Mr. Alfred G. Norris' article (December issue, p. 45, steel fabricating costs) in your publication.

The awakening of the West is a most interesting and stirring development. To view the various evidences of that awakening on a factual basis rather than the usual highly opinionated "arguments" that often characterize our attempts to arrive at conclusions is most encouraging.

You are to be commended for your efforts to place such studies before your readers. We will need lots more of them as time goes on.

H. L. DUNHAM,
Vice-Pres.,Valley National Bank
Phoenix, Ariz.

Editor, Western Industry:

In Alfred Norris' article there is certainly a lot of meat packed into this short space.

To me the figures indicate that the Western manufacturers' real problem is not one of freight rates, but rather one of marketing. Furthermore, the figures show that the Western manufacturer has an advantage of 1 to 3 per cent with which to intensify his sales and advertising efforts, and thus make his products better known.

Add to this the excellent low cost regional media we have on the Pacific Coast, and you get a deal that should put Eastern manufacturers on the defensive.

GEO. C. McNUTT, Vice-pres.
Bottsford, Constantine & Gardner,
Portland

Editor, Western Industry:

Your December article on comparative steel costs in the West is a subject of vital importance to all of us, and factual presentation of such material should aid in ultimately solving our problems.

L. A. WISEMAN
Assistant Cashier
Crocker First National Bank
of San Francisco

Freight Rates

Editor, Western Industry:

I am interested in obtaining tearsheets or a reprint of the article entitled "Western Commissions Oppose I.C.C.'s Proposed Rate Slashes" in the October 1945 issue of *Western Industry*. We are very much interested in the effects of class-rate equalization upon the location of industry.

JAMES C. NELSON
Chief, Transportation Unit,
Bureau of Foreign and
Domestic Commerce
Washington, D. C.

Electric Power

Editor, Western Industry:

Your presentation of the Bellingham survey and the industrial research activity by Northwest power companies was excellent, and everyone I have talked to in this area appreciates very much the interest you have taken.

EMORY C. BRANCH
Commercial and Industrial Director
Puget Sound Power & Light Co.

Editor, Western Industry:

Thanks for the very fine article on the work of the industrial development committee of the Northwest Electric Light & Power Association which appeared in the October issue of your magazine.

F. H. MURPHY
Portland General Electric Co.

Editor, Western Industry:

This support on the part of your very excellent trade journal is undoubtedly helping power companies throughout the Northwest in the big job they have of encouraging private enterprise.

W. C. MAINWARING
Vice-President
British Columbia Elec. Railway
Co., Ltd.

Foreign Trade

Editor, Western Industry:

Let me compliment you on the publication of a very attractive magazine and undoubtedly it will have considerable influence along the Pacific Coast.

If we can encourage our various Pacific Coast manufacturers to make inquiries of the exporters as to the items in which they might be interested, we believe our Western industry will be able to maintain its production to very nearly the volume of the war years.

GROVER C. ELAM
International Merchants
and Shippers
San Francisco

Non-Ferrous Metals

Editor, Western Industry:

I enjoyed your article on the light metals industry in the August issue.

I've had occasion to suggest to Harold Wright, the general manager of the Los Angeles Chamber of Commerce, that we in the West would do well to slant our propaganda in the direction of the non-ferrous metals industry rather than the light metals industry. In this way we get the support of the brass people and fabricators thereof as well as the aluminum and magnesium people.

Perhaps you don't realize that brass costs a manufacturer exactly the same price whether he buys it in Bridgeport, Connecticut, or in Los Angeles. That means there are no adverse freight rates against the fabricator on the West Coast, as is the case with steel with which we are also familiar.

There are a lot of plants working in brass out here who would be glad to join the program. Therefore, I suggest that we reorganize on the basis of non-ferrous metals and not just light metals.

MORRIS B. PENDLETON
President
Plomb Tool Co., Los Angeles

Editor, Western Industry:

I think Morris Pendleton's idea of the Western States Council appointing a special committee to promote non-ferrous metals is excellent. I will present this suggestion to the Board of Directors at its next meeting.

I do appreciate your understanding and presentation of the situation with the Western States Council, and have every hope that your prediction of natural and solid growth for the Council will materialize.

CHRISTY THOMAS, Pres.
Western States Council

Labor Relations

Editor, Western Industry:

We were very much interested in your article "Skilled Management Agents Should Handle Negotiating," also the excellent presentation of the subject of labor relations.

Associated Employers Labor
Bureau
PAUL B. CORR, Director of
Public Relations, Asso. Employers Labor Bureau,
Portland.

A Few Flowers

Editor, Western Industry:

The wealth of information and up-to-date articles featured by you have been most helpful and we congratulate you on being a worthy representative of Western thought and industrial progress.

Carbide and Carbon Chemicals
Corporation
M. H. SCOTT
Pacific Coast Sales Manager

Editor, Western Industry:

During the years that we have been receiving *Western Industry* we have found it to be informative and a valuable addition to our office library.

Non-Ferrous Metals Commission
CHARLES F. MULFORD,
Executive Secretary
Denver, Colo.

Editor, Western Industry:

You have a fine magazine, full of interesting items about Western industries.

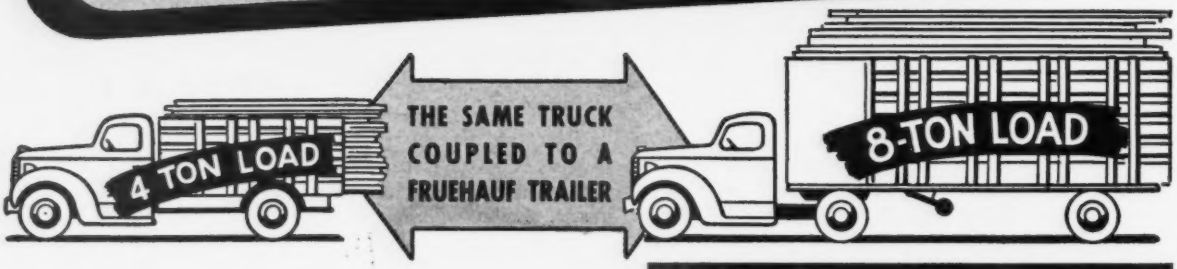
F. SCHMITZ
Western Machine Works
Tacoma

Editor, Western Industry:

You should think more of us on this side of the hills and then it would be a real magazine. As it is you give a lot of good information for us out west and I appreciate receiving it regularly.

WALTER L. SCHMIDT
Schmidt Sales Company, Denver

Make your trucks pull heavier loads with FRUEHAUF TRAILERS



WHEN you adopt the Trailer-Method and *pull* your loads, your motor trucks can haul at least twice as much as they are designed to *carry*.

For example—a small truck designed to *carry* 2½ to 4 tons can, when coupled to a Fruehauf Trailer, *pull* a load of 6 to 10 tons.

Thus, when you use a Trailer instead of a big truck:

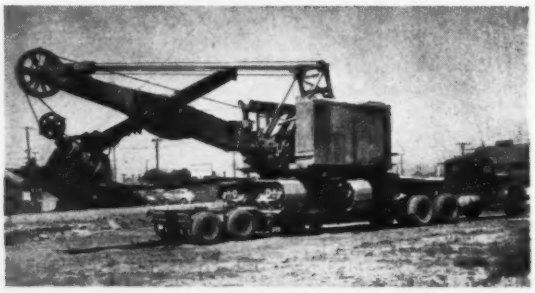
1. **The initial cost of equipment is less.**
2. **The cost of gasoline and oil is lower.**
3. **Maintenance is much less.**
4. **The smaller truck costs less to replace when worn out—and the Fruehauf Trailer will outlast several trucks.**

You, as thousands of users will tell you, can save money by hauling with Fruehaufs.

If you aren't fully familiar with the economies of the Trailer method of hauling, by all means get the story from your nearest Fruehauf representative.

FRUEHAUF TRAILERS

ENGINEERED TRANSPORTATION



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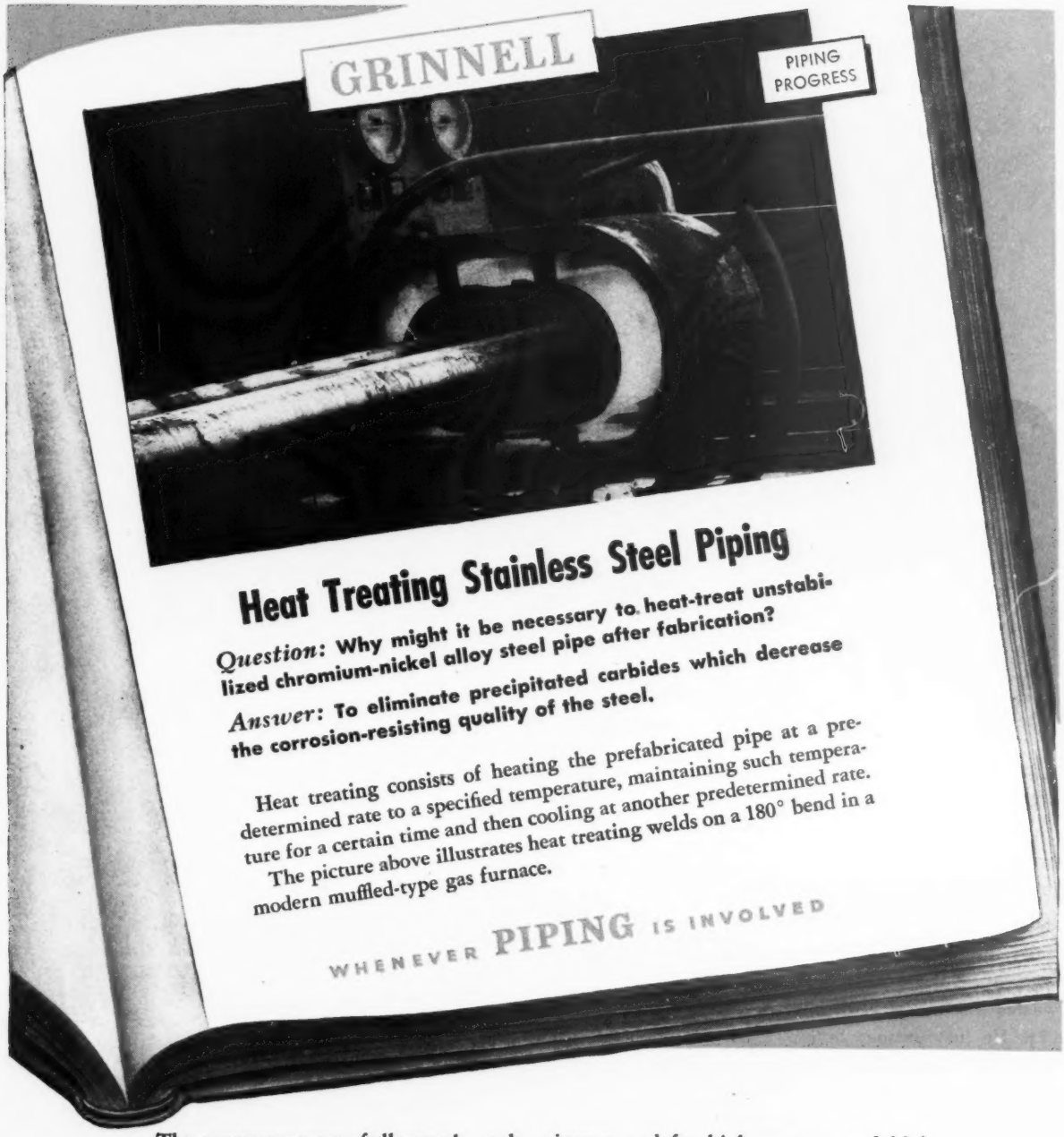

Heat Treating Stainless Steel Piping

Question: **Why might it be necessary to heat-treat unstabilized chromium-nickel alloy steel pipe after fabrication?**

Answer: **To eliminate precipitated carbides which decrease the corrosion-resisting quality of the steel.**

Heat treating consists of heating the prefabricated pipe at a predetermined rate to a specified temperature, maintaining such temperature for a certain time and then cooling at another predetermined rate. The picture above illustrates heat treating welds on a 180° bend in a modern muffled-type gas furnace.

WHENEVER **PIPING** IS INVOLVED

There are many types of alloy steel – each with its own particular properties and characteristics, such as reactions under the heat of welding and bending. Grinnell engineers are familiar with these reactions and have developed closely controlled and metallurgically supervised procedures for fabricating alloy piping to obtain the full advantages of alloy steels for corrosion resistance and for high pressure and high temperature applications.

Whatever the piping requirements, Grinnell has the specialized engineering knowledge and experience to handle the job – from first plan to actual operation. Grinnell can supply everything from a tiny tube fitting to a complete power plant installation.

GRINNELL COMPANY, INC.
Branch warehouses at
Los Angeles, San Francisco, Oakland, Seattle

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WHENEVER **PIPING** IS INVOLVED

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ZIP-LIFT
HARNISCHFEGER CORP. MILWAUKEE, WIS.

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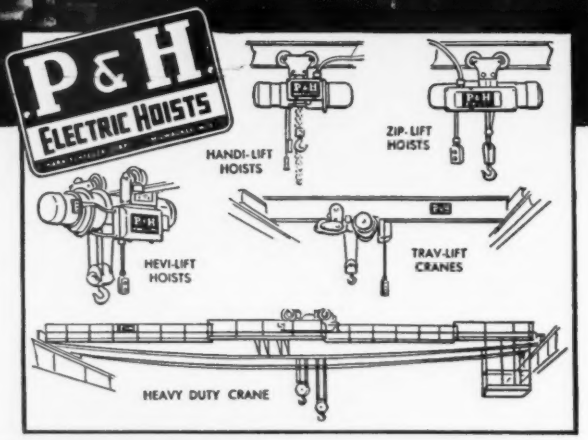
ONE WAY
TO *Lower Costs!*

Nowadays, there's only *one* sure way to lower costs — *more production per man-hour!* And "thru-the-air" materials handling is a proved method of freeing skilled hands from unproductive work.

Take the P&H Zip-Lift. With this modern wire-rope hoist, your production man never wastes his energy — or skill — on load-lifting. He just presses buttons . . . and his loads are carried, lifted, lowered and placed with smooth, fast efficiency. Traveling "thru-the-air," they move *direct*, without congesting aisles.

Many of your materials can move with this same economy — from raw to finished state — and without costly rehandling. It's this speed and ease which have enabled Zip-Lifts to pay for themselves *twice over* in a single year. Let them work to lower your costs! Ask a P&H Hoist Engineer to look over your handling needs . . . or write us for Bulletin H20-2.



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Specially lithographed Signode Seals provide quick identification for shipments—and valuable advertising. Special seals can be made up in combinations of yellow, red, black with your individual trademark or name.

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Take advantage of Signode's world-wide experience in answering packaging and stowing problems . . . A Signode engineer is ready to help you. Write today!

SIGNODE STEEL STRAPPING CO.
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458 Bryant St., San Francisco 7, Calif. 441 Seaton St., Los Angeles 13, Calif.
1021 4th Avenue, Seattle 4, Washington

Better put supper in the oven

Won't be home tonight. Have to work. Have to catch up. Everything's all a fumble again.

Overtime—all the time.

Can anything be done to stop this constant drain on manpower and finances? Can a business ever keep vital figures current? One answer is *business form engineering.*

Moore Business Forms, Inc., can design forms for your specific business that will save the time of all hands, cut total form expenses by 10% to 30% — and get figures out on time.

The Moore representative studies your business forms one by one—in co-operation with your staff. When change will benefit, he recommends change. Economies in printing, in paper stock and size, he points out freely. Often a standard form is best. . . . Then Moore supplies the forms—in lots of hundreds or millions.

The ten companies listed below, long under Moore ownership, are now united under the Moore name—without change in policies or management. They bring an unequaled fund of experience to the small store or the nation-wide business alike.

To see how engineered business forms can help you, get in touch with the nearest Moore division, as listed below, or its local office. *Moore stands ready to supply you with everything from a simple sales book to the most intricate multiple-copy forms.*

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PACIFIC MANIFOLDING BOOK CO., INC., EMERYVILLE; LOS ANGELES, CALIF.
GILMAN FANFOLD CORP., NIAGARA FALLS, N. Y.
COSBY-WIRTH MANIFOLD BOOK CO., MINNEAPOLIS, MINN.
MOORE RESEARCH & SERVICE CO., INC., NIAGARA FALLS, N. Y.
SOUTHERN BUSINESS SYSTEMS, INC., ORLANDO, FLA.
MOORE BUSINESS FORMS, INC. (New Southern Div.), DALLAS, TEX.; ATLANTA, GA.
In Canada—Moore Business Forms, Ltd., succeeding Burt Business Forms, Ltd., Toronto; Western Sales Book Co., Ltd., Winnipeg and Vancouver; National Sales Check Book Co., Ltd., Montreal

MOORE BUSINESS FORMS, INC.

ADV. BY N. W. AYER

FOR AN INDUSTRIAL WEST

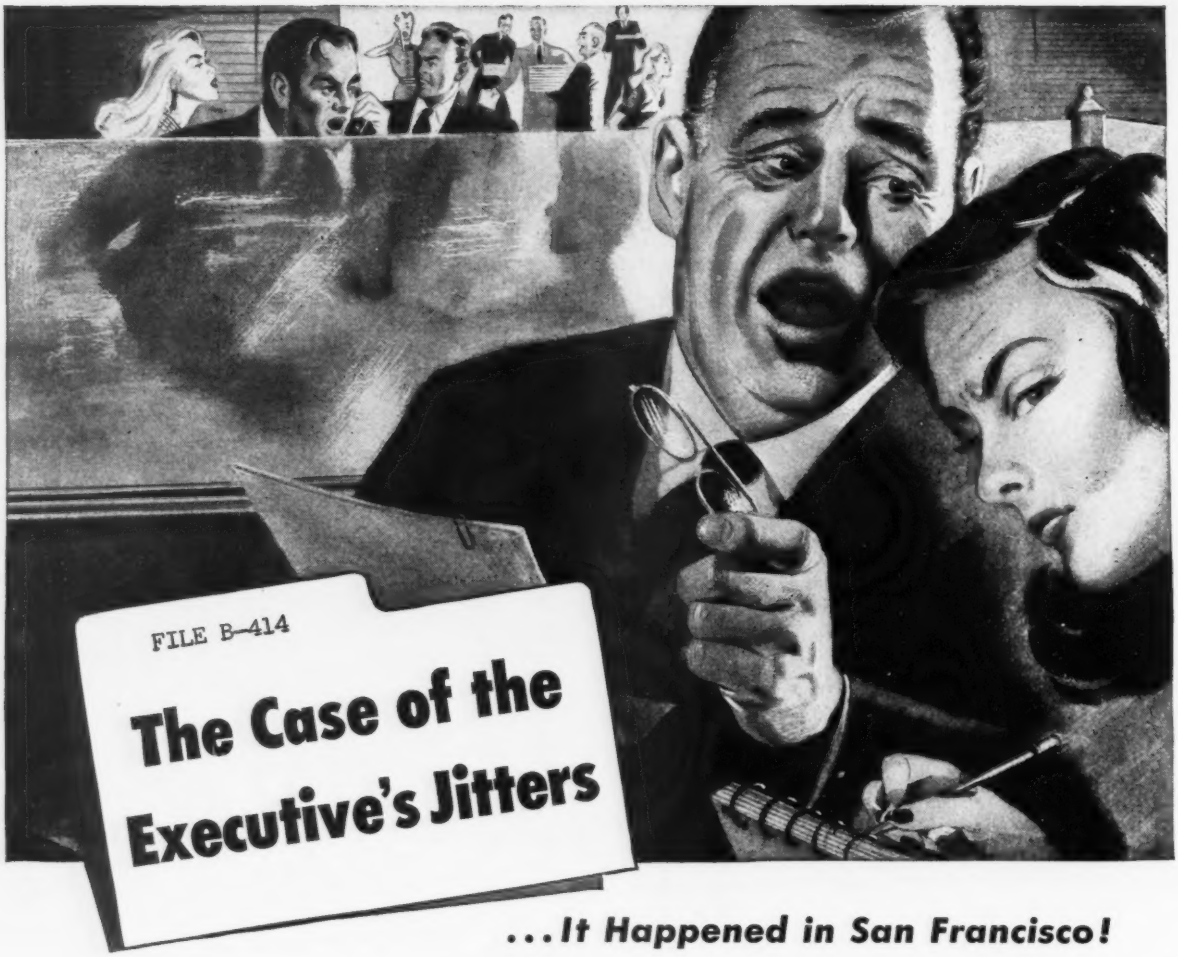
An expanding western industry has many uses for steel. Six are presented here to show the diversity of Consolidated Steel's precision fabrication.

If your construction plans call for the use of steel – Consolidated Steel is ready to offer you capable, immediate service. Address Consolidated Steel, Los Angeles 22, California; or Orange, Texas.

Consolidated Steel

FABRICATORS
ENGINEERS
CRAFTSMEN

LEADERS IN THE WEST AND SOUTH



...It Happened in San Francisco!

THE PROBLEM: Because executives in low-partitioned private offices of the Ray Oil Burner Company, San Francisco, had to shout to be heard above the noise of office machines in the adjoining main office, they were under a constant nervous strain.

THE SOLUTION: The company—one of the world's largest manufacturers of industrial, marine and domestic oil burners—consulted the local Acousti-Celotex distributor, a member of the world's most experienced acoustical organization. He suggested that the block-long ceiling be covered with Acousti-Celotex, the famous perforated fibre tile that is the most widely used sound conditioning material.

THE RESULT: Management noted such an improvement that President Milton S. Ray says: "The attractive Acousti-Celotex ceiling has hushed the noise of machines, typewriters, phone bells and voices to where it is scarcely noticeable. Our executives can now converse in their offices in ordinary tones. Office workers have become more contented, more accurate, more productive than ever before. Telephone conversations are more clearly understood."

Find out how Acousti-Celotex can solve *your* noise problem. Consult the Acousti-Celotex distributor near you—without obligation. He *guarantees* results! A call or note will bring a trained expert to your desk.

• • •

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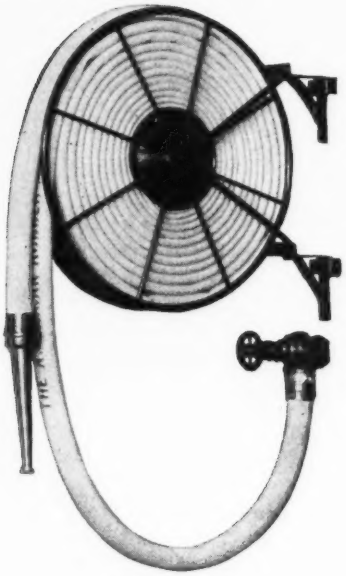
How *fast* will your fire hose unreel?

Isn't it just about time to shake the cobwebs and dust out of your emergency fire hose? Test it to see how readily it unreels. If it is cotton rubber lined hose, put it under pressure to see if it still holds water. Cotton rubber lined hose will deteriorate faster hanging year after year without use than it will if put to use at frequent intervals.
Replace questionable hose with Bear Brand Fire Hose. If fixtures are outdated, unsightly, or inadequate, investigate the many good looking, fast-action *Lightning* Hose Reels and Racks.

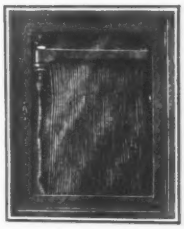
• Is protection adequate?



For general factory, warehouse and other industrial use, *Lightning* Tubular Hose Reels are most economical and effective. They may be wall mounted near the fire valves, ready for immediate use. Hose remains attached to valve for instant action.

A tension type axle is used and can be adjusted so the reel will run tight or loose, as desired. Available in many sizes to fit your needs.

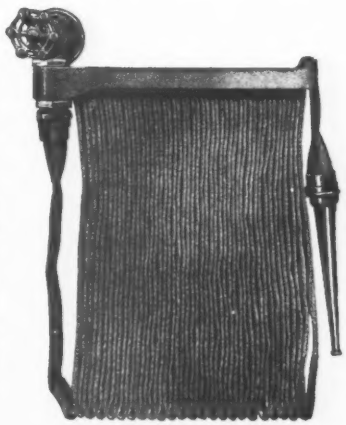
• How does it look?



Lightning Hose Rack Cabinets are designed to fit with the architect's plans for appearance and ease of installation. They meet all requirements of utility. At the same time, *Lightning* Cabinets aid in the movement of traffic in hallways or other limited spaces for the doors fit flush with the finished wall. Models are available in sizes to fit all building or remodeling plans, and may be ordered to accommodate an auxiliary tank extinguisher.

• Does it meet the needs?

Where other methods of hose racking are desirable to support a hose from the wall, steel, wooden or concrete columns, we recommend the use of Plate 3 *Lightning* Hose Rack.



The rack is supported from the valve with the *Lightning* Valve nipple, which acts as a hinge. This style recommended for unlined hose. A wide choice of finishes is offered, to fit the decorative schemes of your buildings. Most common finishes are enamel, nickel plate and chrome plate.

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Not an ordinary lift truck job, perhaps, but Towmotor takes it right in stride! Regardless of the task, if it involves lifting, moving or stacking materials, Towmotor can do it—efficiently and economically.

The authorized Towmotor distributor in your area knows handling—and Towmotor. Let him show you how this modern handling system can effect worth while savings in time, money, space and manpower.

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SULPHURIC ACID

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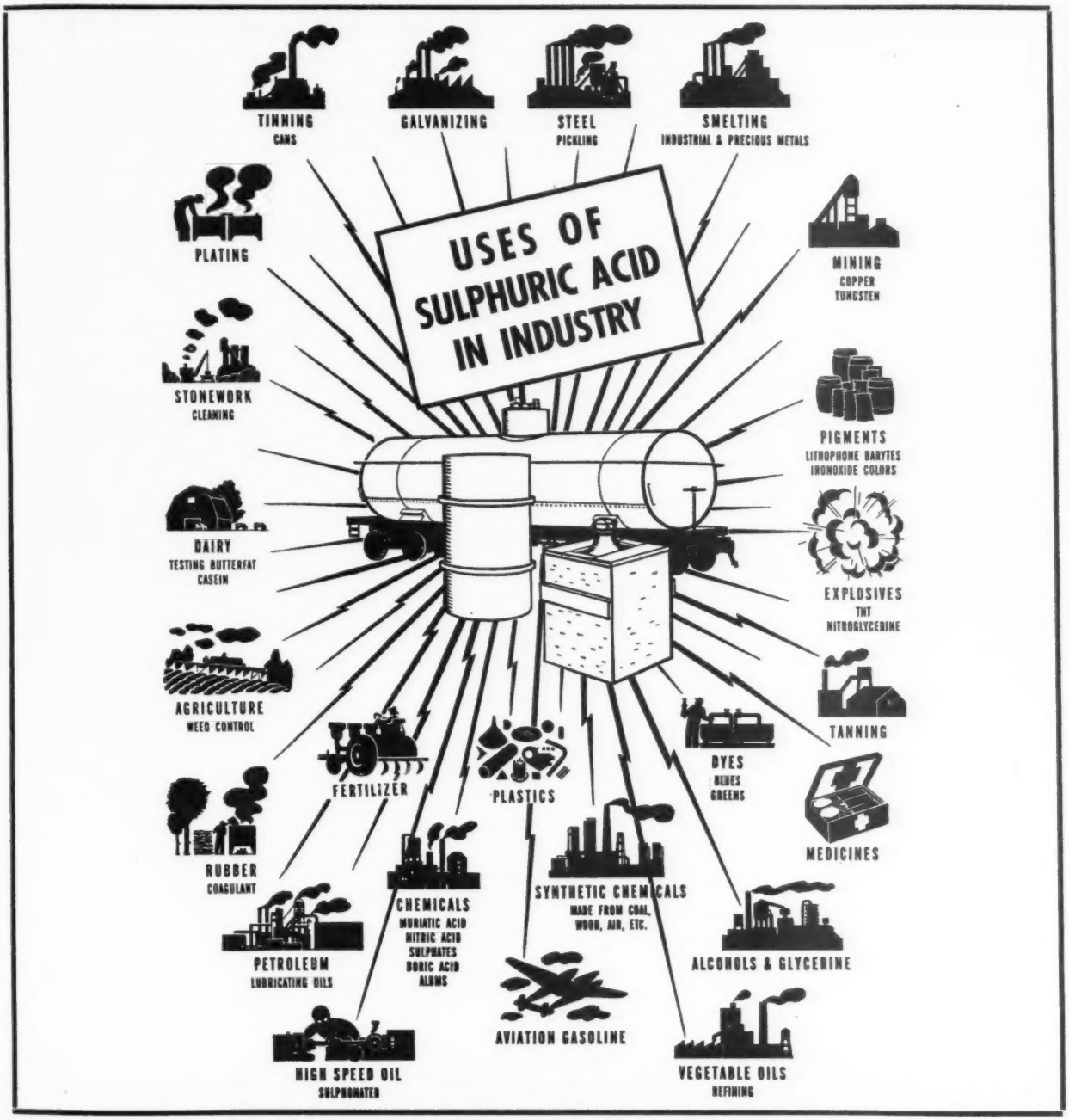

(This is the first of a series of charts on chemicals and their uses)

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CHEMICALS | FOR INDUSTRY AND AGRICULTURE

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● The *complete* series of Associated fuels and lubricants — from 100-octane *aviation gasoline* all the way through the alphabet to *wool yarn grease*—includes petroleum products we haven't even made as yet. For right at this moment Associated engineers are busy formulating fuels and lubricants on special order — to meet *individual plant requirements.* Problems of extreme temperatures, humidity and dryness, excess friction, and abnormal machine speed fall before these technicians daily. Chances are you will find the correct Associated fuel or lubricant among the hundreds readily available to do your particular job best. If you don't — let our laboratories find the right answer. A phone call does it. Let's Get Associated.

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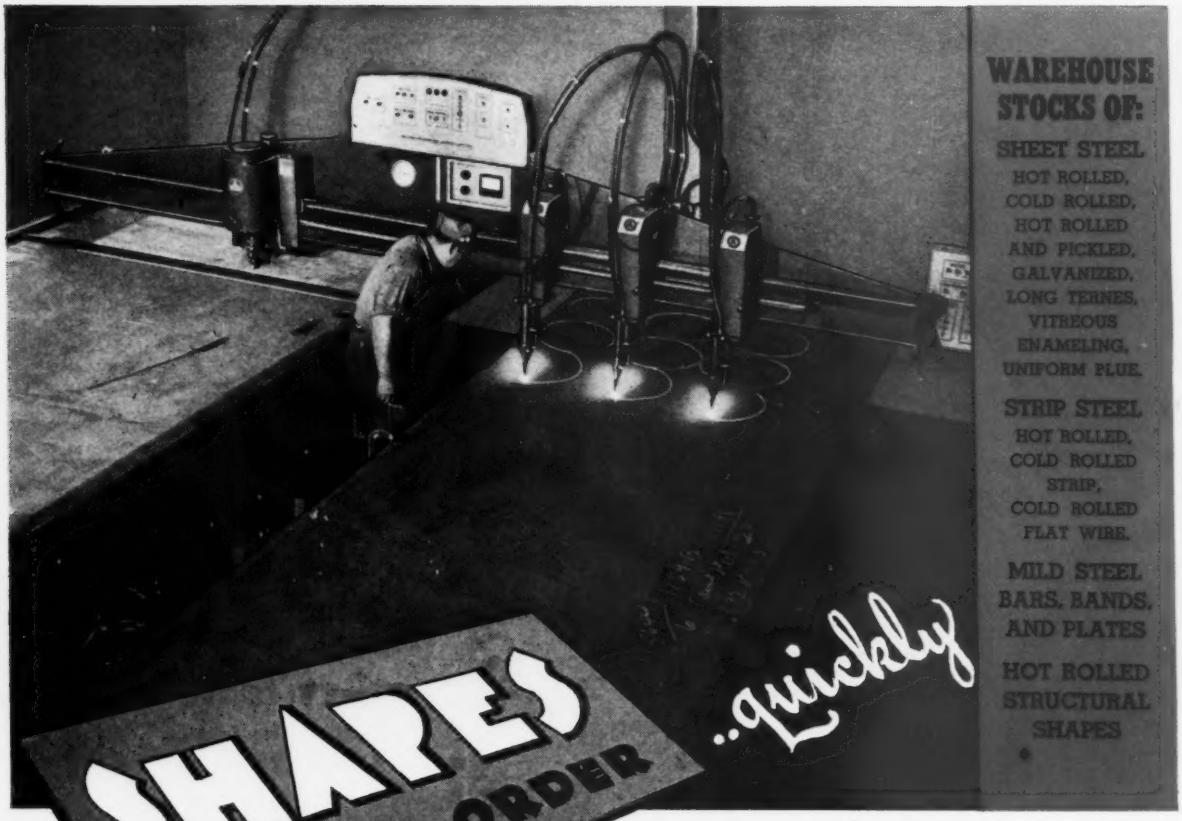
SHAPES
CUT TO ORDER
..quickly
WAREHOUSE STOCKS OF:
SHEET STEEL
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STRIP STEEL
HOT ROLLED, COLD ROLLED STRIP, COLD ROLLED FLAT WIRE.
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HOT ROLLED STRUCTURAL SHAPES

THE MULTIPLE CUTTING FEATURE OF THIS EQUIPMENT ENABLES US TO UTILIZE IT FOR PRODUCTION RUNS IN WHICH ECONOMY AND SPEED ARE ESSENTIAL

PREPARING STEEL to exact specifications is a time-saving service offered by all Caine Steel Company service plants. We have recently added to our cutting facilities the latest type of planeograph flame cutter and can now offer a complete service in all types of cutting work.

This equipment permits us to cut from heavy plate stock, with extreme accuracy, almost any shapes from the smallest piece to a circle 5 feet in diameter. In addition, the template tracer and manual tracer attachments permit exact reproduction from your full-scale templates or master blueprints.

This is just another reason why it pays to *Raise Caine for Steel.*

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MEN WHO KNOW HOW help another steam plant keep fuel costs down . . . this time using two types of J-M insulations.

THERE is an art in properly applying insulations—and only specialists know the many little practices that make for success. Lack of this knowledge may greatly reduce the value of your insulation investment.

For permanent heat control and fuel savings, Johns-Manville places at your disposal a trained force of expert workmen and engineers—a nationwide organization capable of handling all details of an insulation job and taking complete responsibility from planning through application.

In some areas, J-M's own construction forces are ready to help you. In others, J-M Technical Service Units have been created by selecting contracting companies of proved reliability and specialized experience in this field.

These Insulation Specialists, backed by years of insulation research and practical experience, are able to choose the right insulating material for you from a complete line of insulations. They specify the right thickness, the right bond or joint . . . for every industrial temperature, every service requirement.

All are important reasons why J-M may be able to solve your next insulating problem . . . more quickly, *safely!* For further information, write Johns-Manville, 22 East 40th Street, New York 16, N. Y.

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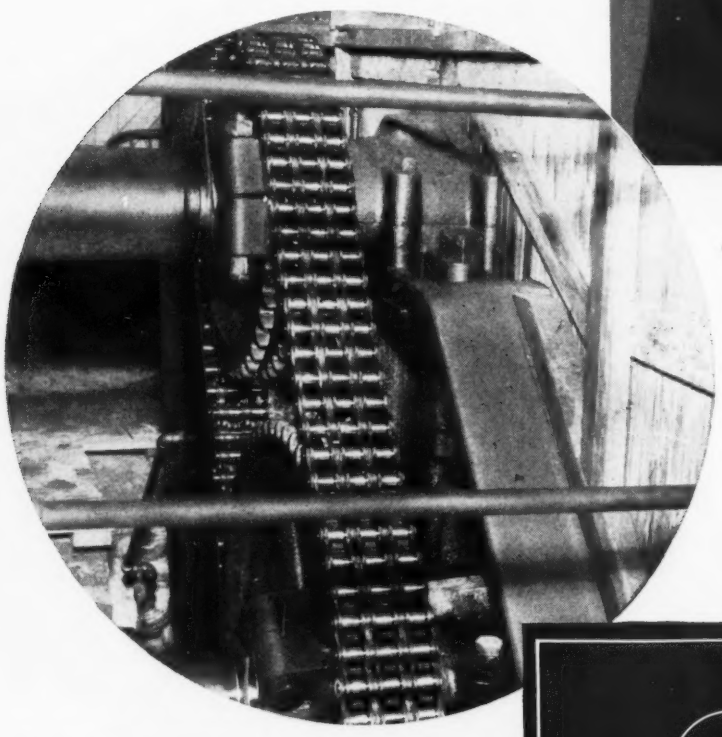
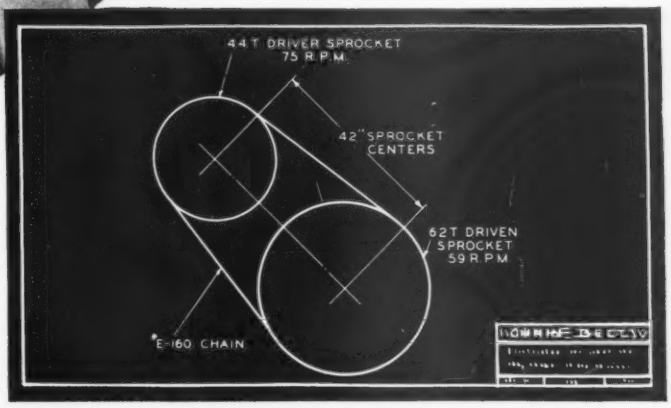
JOHNS-MANVILLE *First in* **INSULATIONS**

"We put a Stop to Power Pauses"

❶ TROUBLED WITH A PLANT DRIVE that slips or jerks? That slipping drive causes interruption in the flow of power to equipment . . . "power pauses" that mount up to a considerable loss at the end of the day. You can stop the power pauses with positive Baldwin-Rex Roller chain belts.



❷ THIS PLANT doesn't worry about power pauses. The sturdy triple-strand Baldwin-Rex Roller chain belt transmits all the power. There's no slippage to waste power and step up costs. They're strong, too. They don't take time out for frequent repairs and adjustments. Once installed, they stay on the job . . . operating quietly and efficiently.



❸ AS THIS DIAGRAM of the drive indicates, Baldwin-Rex Roller chain belts are not dependent on set distances between centers for effective operation . . . they run slack and do not depend on tension for proper operation. They are easy to install and, as they are not installed under tension, there is no pre-load to shorten bearing life. Baldwin-Rex chains are not affected by dust and grease and are highly shock absorbent.

For catalogs on Baldwin-Rex Roller chain belts or competent information on your specific drive problems, write **BALDWIN-DUCKWORTH** *Division of* **CHAIN BELT COMPANY,** *352 Plainfield Street, Springfield 2, Mass., or call your local Baldwin-Rex representative.*

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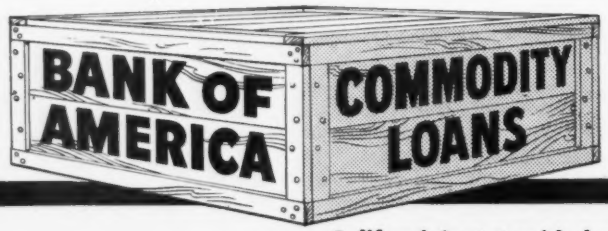
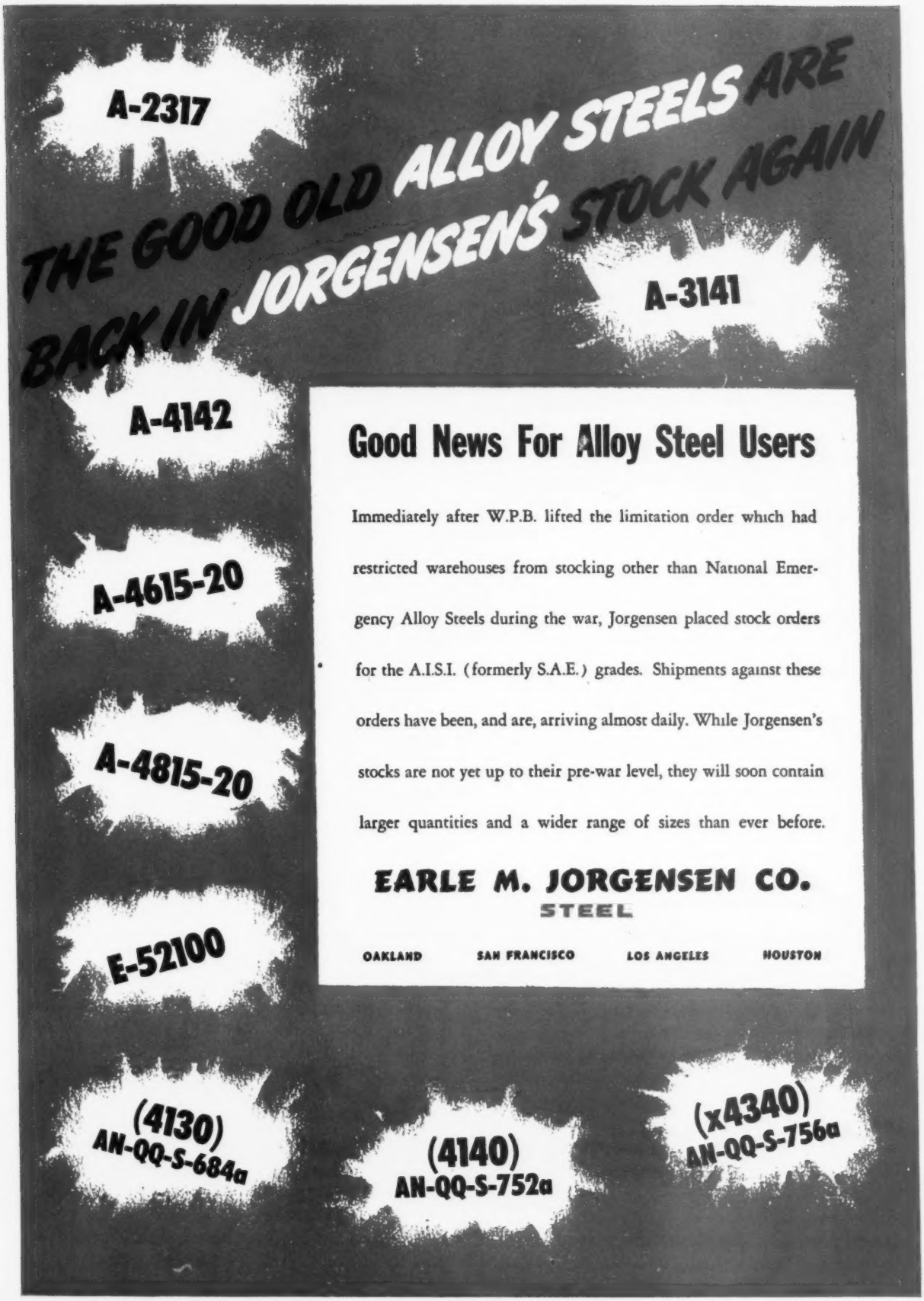
● No need to keep good working capital tied up in your inventories! This statewide bank has a department devoted exclusively to serving commodity loan borrowers. Over the years, the Commodity Loan Department has earned the appreciation of farmers, manufacturers, and other producers throughout California. Regardless of what your product may be, so long as it is marketable, it may be used as collateral for a commodity loan. Discuss your problem at the nearest branch of this California-wide bank.

Convert your inventory into cash



MP11-6

California's statewide bank


A-2317
THE GOOD OLD ALLOY STEELS ARE BACK IN JORGENSEN'S STOCK AGAIN
A-3141
A-4142
Good News For Alloy Steel Users
Immediately after W.P.B. lifted the limitation order which had restricted warehouses from stocking other than National Emergency Alloy Steels during the war, Jorgensen placed stock orders for the A.I.S.I. (formerly S.A.E.) grades. Shipments against these orders have been, and are, arriving almost daily. While Jorgensen's stocks are not yet up to their pre-war level, they will soon contain larger quantities and a wider range of sizes than ever before.
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In one dramatic instance, Revere metallurgical skill, applied through the technical advisory service in collaboration with a customer, created a new high quality standard, and the metal thus produced reduced rejections of a valuable finished product from a ruinous 40% to around 1%. Perhaps you may never need to call for such high skills nor for such high standards, but Revere the Metallurgist stands ready to meet your practical problems on any level. If you are a fabricator of copper alloys, the light metals, or of steel tube, get in touch with Revere.

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Spotlight on the NEWS

WESTERN INDUSTRY
FOR JANUARY, 1946

VOLUME XI NUMBER 1

The Postwar Picture

Whether we will have in the year now beginning the huge pool of unemployed that has been predicted as something inevitable in the immediate postwar period, or whether we will get over the hump without serious difficulty is anybody's guess. But the factors that will govern the situation are fairly apparent, except as to how big the postwar expansion programs of business will be and how soon they will get under way. To give as clear a picture of the Western situation as possible, *Western Industry* has summarized the situation in its leading article (pages 27-28).

Color in Industry

By the use of the right color the work that paint does can be increased so that the returns will show up in other departments than that of maintenance. Page 42 carries the story of how properly selected color for factories can result in increased efficiency and lowered accident rates.

South American Dollars

Westerners interested in foreign trade shouldn't pass up South American prospects. Alone among all the foreign nations in the world today, the South Americans are able to flash plenty of the long green. Furthermore, their economy is in such an active condition that they are hungry for American goods. A quick preview of why they are hungry, and of the size of their roll appears on page 38.

Westerners in Foreign Service

Arnold Kruckman leads off his Washington letter this month with an overall view of the number of Westerners now serving in the government's foreign service around the world. Some of them will be known to many readers, and the information as to their whereabouts may prove of practical value to those who are viewing foreign trade with an appraising eye.

Racial Question

The negro population in the West has increased tremendously as a result of the war. The increase is permanent. As the number of workers in the total labor force becomes equal to or surpasses the number of jobs, the problems inherent in the hiring of negroes will become greatly increased. For an examination of the negro question in the West, turn to page 35.

Who Gets Geneva?

Right now the big Geneva steel mill is a liability, but 25 years hence there may be some steel companies who will be wishing that they had bought it when the buying was good. Who will be the farsighted one? Some of the possibilities are outlined on page 41.

Deep Freezing Tools

Just turn on the cold to the right amount and the temper of tools can be brought to the proper pitch (pages 44-45). The technique is a valuable one for treating tools that have not been given the proper temper in the first place.

Skilled Workers Needed

Continuous training programs are needed to provide a peacetime supply of skilled labor, says President John C. Lee of Menasco (page 40), and he is corroborated by F. W. Gale of Columbia Steel, who points out (page 41) that the Western steel industry is seriously handicapped by lack of just such men.

Labor Negotiations

The average employer is a dummy when it comes to handling labor negotiations. That, at least, is the belief of the professional labor relations consultant whose thoughts on the matter appear on page 37. The author is anonymous for obvious reasons, as you will see when you read the remarks he gets off his chest.

How to Cut Taxes

You, too, can avoid a substantial amount of taxes paid by your business if it becomes a cooperative venture within the meaning of the law. It's nothing new. Already enterprises with capital aggregating hundreds of millions of dollars are in the cooperative fold. Of course, as the cooperative movement grows the tax burden paid by private industry becomes heavier in direct proportion. In fact, as the author of the article on page 29 states, a continuance of the movement may ultimately result in the formation of a Co-operative Commonwealth for the United States.

Bigger Atomic Bombs

Two men who know the inner workings of the atomic bomb plant at Hanford (pages 32-34) point out the possibilities of atomic bombs infinitely more powerful than those that fell on Japan. And in doing so they give a more complete picture of what went on at Hanford than any we've seen yet.

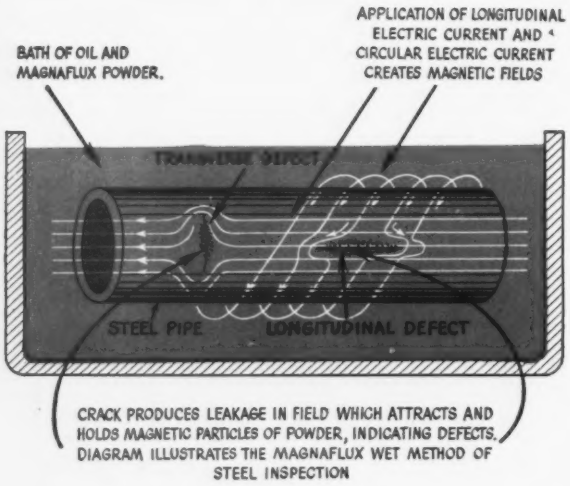
$1816 a Pound

That's what tryptophane, an amino acid, costs, and many of the others are in the upper brackets, too. As a result, the possibility that an experiment with X-rays on a fungus called "neurospora" may result in lowered production costs for the aminos (page 43) is well worth investigating.

Materials Handling

A bang-up job is being done in the packaging of frozen foods by a machine that does practically everything except turn itself on, raise the food and make the cartons. Already tried extensively in the West, the machine has performed so well under practical operation conditions that its constantly widening use in the food packaging field is assured. For the story of how it operates, turn to page 46.

STANDARD ENGINEERS NOTEBOOK


BATH OF OIL AND MAGNAFLUX POWDER.
APPLICATION OF LONGITUDINAL ELECTRIC CURRENT AND CIRCULAR ELECTRIC CURRENT CREATES MAGNETIC FIELDS
STEEL PIPE
LONGITUDINAL DEFECT

CRACK PRODUCES LEAKAGE IN FIELD WHICH ATTRACTS AND HOLDS MAGNETIC PARTICLES OF POWDER, INDICATING DEFECTS. DIAGRAM ILLUSTRATES THE MAGNAFLUX WET METHOD OF STEEL INSPECTION

Water-white oil speeds magnaflux process

In the Magnaflux wet method of inspection to detect surface and sub-surface cracks and other defects in steel, Standard Base Oil C is recommended by the Magnaflux Corporation as the carrier for the Magnaflux paste and also, as the rinse.

It is used in both the continuous and the residual system. Standard Base Oil C is a clear, neutral oil so completely refined that it is water-white in color. All objectionable odors have been removed.

With all impurities removed, Standard Base Oil C does not leave an oily film on parts. It evaporates readily, leaving a distinct powder pattern at defects. A minimum amount of mixing suspends either Magnaflux Paste No. 7 Black, Pastes Nos. 9 and 9a, Red, or Paste No. 10 Magnaglo, in Standard Base Oil C. Most operators use 10 gallons with one to two-and-a-half pounds of red or black pastes, and 10 gallons with one to four ounces of No. 10 Magnaglo.

Solvent cleans metal fast and safely

The economical evaporation rate of Standard Thinner No. 325 has solved for many operators the problem of efficiently cleaning machinery, motors and metal parts of all types. It is water-white — a straight run, uncompounded product made from the heart-cut of selected crude stocks.

Standard Thinner No. 325 is especially suitable for cleaning precision parts. It has a faster final dry than most solvents generally used for this purpose, and leaves no residual oily film, thus speeding up production. Yet it is as safe as slower drying solvents since its flash point is over 100° F.

Because of the importance of selecting different petroleum solvents to obtain maximum efficiency in various operations, Standard of California manufactures a complete line that meets the specific needs of practically every industry.

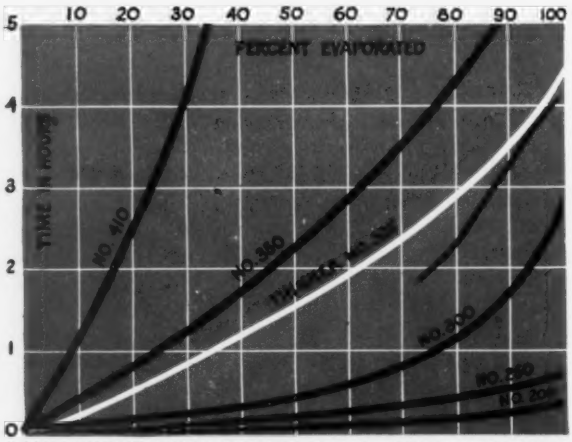


CHART SHOWS EVAPORATION RATE OF STANDARD THINNERS. 5 GRAM SAMPLES IN OPEN DISHES. ROOM TEMPERATURE 72-74°F

Standard Fuel and Lubricant Engineers are always at your service. They'll gladly give you expert help — make your maintenance job easier. Call your local Standard Representative or write Standard of California, 225 Bush St., San Francisco 20, California.

FOR EVERY JOB A **STANDARD OF CALIFORNIA** TEST-PROVED PRODUCT

ASSETS AND LIABILITIES IN WESTERN EMPLOYMENT PICTURE

New Demands of Industry for Manpower Matched Against Immigration And Return of Veterans, Plus the Possibilities of Further Industrial Strife

TO PREDICT that the West may have no postwar unemployment problem of any consequence may seem like the height of rashness. Yet there are some factors in the situation that do not make it impossible or even improbable.

The issue apparently resolves down to three questions, namely:

1. Whether the new employment demands of industry, plus the outmigration of wartime labor, will match the mounting total of inmigrants and returning veterans.

2. Even if there is enough occupation for all eventually, whether there will be a lag before these postwar programs get under way which will be the cause of a serious temporary prevalence of unemployment.

3. Whether there will be widespread industrial strife that will delay business getting under way and thus create unemployment outside of the industries directly affected. This factor has already been apparent in the machinists' strike situation in the San Francisco Bay district and in the

• TODAY'S G-I's, Tomorrow's V-P's, G-M's, G-S's and G-F's. This group arrived from Leyte just before Christmas and are pictured in a temporary PX in a dock shed at San Francisco, waiting for the railroad transportation jam to subside sufficiently to permit them to continue their journey homeward and discharge-ward. In case they should turn up on your payroll later, or want to buy into your company, here's who they are, around the table from left: Pfc. Merill Smith, Athens, Tenn.; Cpl. Woodrow Grant, Londonderry, N.H.; Sgt. Charles Creech, Cincinnati; Staff Sgt. Macer Kincaid, St. Louis; Sgt. Fred Kimball, Wausau, Wis.; T/Sgt. Joe Guttler, Philadelphia.

big lumber strike in the Pacific Northwest.

Taking the unfavorable factors first, the following may be listed:

1. According to such rough estimates as are now available, unemployment in the three Pacific Coast states increased 296,200 from August 1945 to November, reaching a total of 408,600 in the latter month.

2. Further end-of-the-war layoffs are yet to come when some 175,000 shipyard workers are released as new ships are completed and repair work slacks off to a normal level.

3. Some 500,000 veterans are still to be discharged in the area (plus about 260,000 already released up to November), in addition to many non-resident veterans who expect to come here to live. Many are simply pocketing the travel money to their homes elsewhere in the country given them by the armed services and remaining here.

4. Estimates of total unemployment in the next year range from the prediction of the United States Employment Service, that there is "apt to be" a total unemployment of 1,000,000 in the three states by next summer, to the prophets of disaster who are confident that the figure will easily reach 1,500,000.

5. The gradual reduction of military and naval establishments will reduce the amount of government money being pumped into the area, thus decreasing employment to a certain extent.

Management's Responsibility

6. Failure of management to act promptly and adequately in making legitimate upward wage adjustments to offset higher living costs may precipitate industrial strife in which the left wing of labor will seek such objectives as have come to light in the General Motors strike, namely, control of profits and functions of management. While this issue is being fought out, everyone may suffer.

Against this array of unfavorable factors may be set such things as the following:

1. Unemployment statistics always picture the situation worse than it really is, because there is no standard definition of the word "unemployment."

For example, at the war peak, when unemployment was supposedly non-existent and newspapers were filled with "help wanted" advertisements, the statistics showed 89,600 people unemployed on the Pacific Coast. Again, seasonal workers, such as the crews of women in canneries, whose occupation is recognized as seasonal, draw unemployment compensation under certain circumstances, although their basic occupation is that of housewife.

In other words, unemployment statistics cover a host of individual circumstances that do not fundamentally constitute unemployment.

2. Postwar expansion programs have not gotten under way, because of shortages of materials and labor, the desire to get the benefit of reduced federal taxes by waiting until the first of the year and hesitancy to embark in new ventures while the existence of OPA price regulations endanger the possibility of profit.

Much Activity Scheduled

3. The fact that these expansion programs cover an imposing amount of development may be seen by a study of the "West On Its Way" pages of *Western Industry* for the last three months. It seems almost certain that these reports will continue for months to come, and that removal of OPA price controls would increase the activity.

4. An example of developments which would not appear on the "West On Its Way" is a Federal Public Housing Survey indicating that in California, Arizona, Nevada and Utah alone there are at least 250,000 more families than dwellings (the word covers both single-family homes and apartments), and that in the next 10 year period 700,000 additional families will have to be provided for, to say nothing of major repairs and replacements for existing dwellings. The average new dwelling cost is estimated at $6,000, making over $1,000,000,000 in new construction lying ahead in the future.

5. Unsettled conditions in the Pacific Ocean area have delayed the rehabilitation of the oil fields in the East Indies and other postwar recovery operations which would be reflected in industrial activity in the Western states of the United States.

6. Earlier predictions of total postwar employment are already beginning to be revealed as ultra-conservative. For example, the joint Federal Reserve Bank-C.E.D. survey of postwar employment intentions of manufacturers in California, Oregon and Washington indicated a total of 781,600 employed in manufacturing industries in the postwar period, yet current statistics show that even when shipyards get down to the bottom there will be 830,600 employed in manufacturing, without allowing for any of the postwar expansion that already has been announced.

7. One important cause of present unemployment is the fact that the United States Employment Service has been unable to devote adequate effort to its main work of looking up jobs for applicants because it has had imposed upon it the task of registering and forwarding unemployment insurance claims for the various state governments. This has absorbed most of the time of the U.S.E.S. staff.

8. Shortages of materials may be alleviated somewhat by release of stocks from Army and Navy depots. In December the Navy released $19,000,000 worth of property at Tacoma, $9,000,000 of which was building materials, and $35,000,000 worth at Port Hueneme, 9,000,000 feet of lumber each at Longview and Mare Island, and 2,800,000 feet at Oakland.

9. Resumption of intercoastal steamship traffic will bring in materials in much larger quantities from the East Coast, thus relieving the tremendous burden on the railroads caused by the homeward movement of troops from West Coast ports.

10. In some areas, there has been a labor shortage due to lack of housing facilities, notably Los Angeles, where aircraft employment has begun to pick up because it was found that the need for speed in commercial air service, plus the cost of reconverting Army planes, made it desirable to build entirely new ships instead.

11. Even if considerable unemployment prevails, the unemployment compensation insurance funds for the three Pacific Coast states are in excellent condition. Their combined total is close to $1,000,000,000. Oregon's compensation period is for 16 weeks, while California's is 23 weeks and Washington's 26. The percentage of total number of unemployed workers who could be paid for maximum duration up to the point of entirely using up the compensation fund (as of January 1, 1945) is 72 per cent in the case of California, 96 per cent in the case of Washington, and 122.5 per cent in the case of Oregon.

NON-AGRICULTURAL LABOR FORCE ESTIMATES FOR THE STATES OF CALIFORNIA, OREGON AND WASHINGTON

(By United States Employment Service)

	April 1940	*War Peak*	*Aug. 1945*[5]	*Nov. 1945*	*Change Aug.-Nov. 1945*[6]
Total Labor Force[1]	3,687,700	5,491,300	5,358,300	5,085,700	—272,600
Armed Forces[2]	53,000	926,000	1,037,800	774,500	—263,300
Civilian Labor Force[1]	3,634,700	4,565,300	4,320,500	4,311,200	— 9,300
Employed Total[1]	3,039,300	4,475,700	4,208,100	3,902,600[4]	—305,500
Manufacturing	634,400	1,771,500	1,385,900	1,002,600	—383,300
Aircraft	43,400	427,500	226,700	86,200	—140,500
Shipbuilding	38,100	655,400	415,100	219,800	—195,300
Other	552,900	688,600	744,100	696,600	— 47,500
Non-manufacturing	2,404,900	2,704,200	2,822,200	2,900,000	77,800
Unemployed[3]	595,400	89,600	112,400	408,600[4]	296,200

①Non-Agricultural. ②Originating in the three states. ③Including work relief. ④Workers on strike are included in the "employed" totals. ⑤Figures for California are based on June, 1945 figures. ⑥Figures for California are based on Change—June-November, 1945.

• Is this enterprise escaping a large share of the tax burden borne by private industrialists? Ben C. McCabe, president of the National Tax Equity Association, says that it is—that its organization, the Fruit Growers' Supply Company, and an increasing multitude of other substantial cooperatives are sustaining an abnormal growth because of tax-free accumulations of capital and reserves.

TAX AVOIDANCE—And Legal, Too . .

If the cooperative movement continues to grow it may well obtain control of both the country's economy and government. Indeed, it might mean creation of a Collectivist Cooperative Commonwealth.

By BEN C. McCABE
President, National Tax Equity Association

COOPERATION, which has always been known as farmers' business in the United States, is about to become city business, too.

Because it offers a legal way to do business without paying Federal income tax on earnings, it has recently become attractive to labor and to other groups that see a way of grabbing off a lion's share of the Nation's markets—with the eventual possibility of controlling both the economy and the Government under a collectivist Cooperative Commonwealth.

Cooperative competition with private business is growing at the rate of roughly 33 per cent a year.

This abnormal growth is being made mostly out of tax-free accumulations of capital and reserves—using money that other companies must pay to Uncle Sam to expand operations and to buy out competitors who cannot stand the gaff.

For instance, a year ago the Fruit Growers' Supply Company, subsidiary of the giant California Fruit Growers' Exchange, bought for $11 million the Northern California holdings of The Red River Lumber Company. The purchase covered the town of Westwood, in Lassen County, a big lumber plant, sawmill, veneer plant, box factory, logging machinery, railroads, the town's utilities and 100,000 acres of standing timber, mostly sugar pine.

Red River Lumber Company had paid Federal income tax of nearly $1 million a year on its earnings. Most of this payment will now cease; the co-op pays little income tax on its great earnings—but everyone else will have to pay a little more to make up the Treasury's loss.

National Farm Machinery Cooperatives, Inc., bought the Ohio Cultivator Company a couple of years ago, for about $1 million. Under private ownership, the Cultivator Company had paid Federal income tax of nearly $200,000 a year. It now pays little or nothing.

The California & Hawaii Sugar Refining Company, of San Francisco and Crockett, voluntarily changed from corporation to cooperative in the late 1920's—and this biggest of all cane sugar refineries has never since paid Federal income tax on its earnings!

There have been scores of such cases—big ones like the Globe Refining Company of McPherson, Kansas, which was bought by the National Cooperative Refinery Association for $5 million; little ones like the C. M. Martin Wholesale, of Phoenix, Arizona, and the Menno Lumber Company, of Menno, South Dakota.

Not long ago, in Detroit, United Automobile Workers' Walter P. Reuther suggested a cooperative scheme that is making industry shudder for its future. As a way of making 6 million jobs, Reuther proposed that two new Federal agencies be

created—a Housing Production Authority to make pre-fabricated houses; a Railroad Equipment Authority to build railroad equipment. He further suggested that Government-owned war plants be leased to workers' cooperatives to manufacture these items.

Under Federal laws and bureaucratic rulings that permit cooperatives of whatever kind to escape payment of Federal income tax on earnings, these worker cooperatives could operate practically tax-free.

Whether such a plan will materialize remains, of course, to be seen. Obviously, Reuther hopes it will. And he apparently has some backing in Congress—Representative LaFollette of Indiana has introduced a bill (H R 4181) authorizing sale or lease of two Government-owned surplus war plants to a "bona fide workers' cooperative" for the purpose of producing consumer goods.

Says Mr. LaFollette's bill: "Sec. 9. The Congress declares that (a) it takes cognizance of the claims, presently being made in the United States, that consumer goods can be more efficiently produced in the interest of consumers, and full employment under fair labor employment standards and practices more certainly obtained, either through the operation of industrial plants by workers' cooperatives, or by Government ownership and operation, than by the accepted American method of private-employer ownership and employee workers."

Blow to Industry

If that plan succeeds—and it may some day—it will strike a blow to the very heart of American industry. For cooperative competition and Government competition are not the fair-and-square, aboveboard, equal competition that business has always been used to in the past. It is subsidized competition—the amount of the subsidy being the huge sums that private enterprise pays in Federal income taxes on earnings, which neither the cooperatives nor the Government-owned corporations are required to pay.

Government's Interest

If Government and cooperative were not mixed up in the plan, the proposal of Reuther, LaFollette and others who think like them would probably cause no more than a flicker of interest and a determination to get out and meet the challenger head on. Private enterprise has proved time and again that it can take care of itself against its own kind of competition. As it is, however, the storm signals are out.

Private industry cannot compete with the cooperatives.

Slowly but surely it is being pushed under by the cooperatives.

Eventually, unless the Federal laws are changed, private enterprise will be destroyed by the cooperatives.

These are dire predictions. They are meant to be so. Within the past few years, any one who took the trouble to study the matter would soon have learned that the cooperatives are coming up fast—at the expense of the U. S. Treasury and all U. S. income taxpayers.

The co-ops are now doing a $10 billion annual business.

Federal tax freedom gives them the ability to expand ten times faster than tax-paying private business.

All of them are legitimate—well within the letter, if not the spirit, of the law. And cooperation, which started to be local business to permit farmers to market their products together and to buy certain needed supplies together, has stretched into storekeeping, wholesaling, manufacturing of practically everything, mining, oil well drilling, pipe line operation, petroleum refining, insurance, banking, publishing, undertaking and many other lines of business.

To Grab Railroad

Right now, cooperatives are even proposing to take over a railroad in Vermont, and the chief reason advanced by the promotors of this idea is that as a cooperative the railroad corporation "may buy and sell commodities to its members and others, it can operate plants and transportation sys-

California and Hawaiian Sugar Refining Corporation Explains Its Position as a Cooperative

CALIFORNIA and Hawaiian Sugar Refining Corporation, Ltd. (for convenience called C&H) is an *agricultural co-operative, complying with the provisions of the Capper-Volstead Act*[1] authorizing the formation and operation of associations of producers of agricultural products. C&H is incorporated under the laws of the State of California, in which state its refinery and principal place of business are located.

Its sole activity is the processing and marketing of the raw sugar and molasses produced by its members who comprise 26 Hawaiian sugar plantations which own C&H in its entirety. These plantations ship their raw sugar to C&H which has a refinery on San Francisco Bay and a marketing organization throughout the United States.

C&H markets these sugars usually after refining for the account of its members. It returns to them the entire proceeds, less operating expenses and reserves, and an amount from which to pay a dividend.

Dividends paid may not exceed 8 per cent per annum on its capital stock, all of which stock is owned by its producer members, substantially in the same proportion as the tonnage of raw sugar which they ship to C&H, all of which is in accordance with the Capper-Volstead Act.

The 26 sugar plantations, which are members of and own C&H, have their plantations in the Hawaiian Islands. All of the raw sugar and molasses which they produce, they market through C&H. C&H does not market or deal with any article or product which is not produced by its members, with the exception of some molasses produced in Hawaii by non-members (aggregating less than 1 per cent of its total sales) to whom it returns the net proceeds as in the case of members.

C&H does not purchase supplies or equipment for its members, does not own stock or any interest in any other enterprise, and does not conduct any business or activity whatever, other than to process and market the agricultural products of its members (with the exception of the small quantity of molasses mentioned above). No non-member owns any stock or interest in C&H, all of its stock being owned by its plantation members.

Because of the conditions surrounding the growing of sugar in Hawaii, requiring large amounts of capital, a two-year growing season, and in most instances elaborate and expensive irrigation systems, all of the 38 sugar plantations there are operated by corporations with the exception of one, which is a partnership. Of these, 26 plantations are members of C&H. The remaining plantations market their sugar through agencies other than C&H, principally through Western Sugar Refinery, which has a refinery in San Francisco.

The ownership of Hawaiian sugar plantations, including those which own C&H, is widely diffused, there being more than 15,000 stockholders in the aggregate, mostly resident in the Hawaiian Islands.

As an agricultural cooperative, complying with the applicable provisions of the Internal Revenue Code, C&H is exempt from the payment of Federal income and excess profits taxes. It pays all other taxes, including property taxes and the sugar processing tax, which in 1944 amounted to $6,695,465.84. The tax exempt status of C&H as a cooperative was determined by the Treasury Department by a ruling dated November 16, 1929.

Although C&H itself is exempt from the payment of Federal income and excess profits taxes, the proceeds of the sale of its members' products by C&H, which it returns to such members, is subject to all Federal taxes in their hands, as they are subject to all Federal income and excess profits taxes and enjoy no tax exemption whatever.

(1) 7 U.S.C. Sec. 291; 42 Stat. 388

tems for the marketing of its members' produce *without being subject to income taxes.*"

There is no evidence that Congress ever intended the income-tax exemption of "farmers', fruit growers' and like associations" to include the multi-million-dollar operations of super-co-op wholesales and super-super-co-op manufacturing and financing companies, but the fact remains that through liberal Federal laws and even more generous bureaucratic rulings, cooperatives can get away with things that no private business men today would even dream of.

Co-ops cannot be declared a monopoly. They can break through OPA price ceilings. They can give rebates and discounts which are forbidden to other businesses. They can issue securities without SEC scrutiny or approval. They are given preference in the purchase or sale of products for the government's account. They can borrow Federal money on highly preferential terms.

Most important of all, however, is the fact that they pay little or no Federal income tax. What that means today is hard for taxpayers to take. While private business has been paying $15 billion a year in support of the government, the war and the establishment of a peaceful and prosperous world, the competing cooperatives have paid next to nothing.

Today, while private business is struggling to cut costs in order to pay its tax bill, increase wages and return a decent profit to owners, co-operative competition is bankrupting the men who have helped to make this the greatest power on earth.

To the demand that they pay Federal income taxes on their profits, the cooperatives reply: "We have no profits. The money that we earn is savings, or net margins, or rebates, or over-deposits. It belongs to our members. It is not subject to taxation."

They say: "A farmer sent his hired man to town to buy three bags of feed. The hired man shopped around, bought the feed for nine dollars, and returned a dollar change out of the farmer's ten dollar bill. That's all there is to cooperation."

That is over-simplification. It is a long way from explaining the far-flung operations of such a mammoth corporation as the Cooperative G.L.F. Exchange of New York, which owns the G. L. F. Holding Corporation, which in turn owns six other co-op corporations owning and operating fertilizer plants, feed mills, canneries, a lumber mill, retail stores, warehouses, cold storage plants, etc.; partly owns another co-op corporation with oil blending plants and a paint factory; has stock interests in three other corporations; and is sole owner of 14 marketing subsidiaries and 226 retail subsidiaries. On all of which it made $5,437,000 profit in 1943—and paid not a penny of Federal income tax!

Biggest coming expansion of cooperation is in city stores and in various fields of manufacturing.

National Farm Machinery Corporation, Inc., which is owned by the Pacific Supply Cooperative, of Walla Walla, Washington, and 12 other regional wholesale co-ops in the United States and Canada, recently announced that "we are doing everything in our power to hasten the time when every farmer can have a co-op tractor."

National Cooperatives, Inc., of Chicago, which is owned by Pacific Supply Co-op and 17 other wholesalers, is moving into the electric appliance business, manufacturing and selling refrigerators, washing machines, vacuum sweepers, radios, toasters, irons, clocks and a full line of other items. It already distributed cigars, cigarettes, pipe tobacco, lipstick, face cream, shampoo mixtures, automobile tires, batteries, petroleum products, shingles and many other items.

None of these huge co-ops pay more than the smallest fraction of the Federal income tax that their competitors pay—though they are in the same lines of business, make profits in the same way, and have ample ability to pay.

The problem is serious. It can be solved only by the imposition of equal Federal income taxes on all earnings of co-ops, Government-owned businesses and other organizations and corporations that are now exempt.

Congress is investigating. But whether Congress will act is up to businessmen themselves—businessmen who are trying to preserve their own enterprises and to maintain the free enterprise system of the U. S.

And when these tax-exempts are taxed, the Treasury will collect about one billion dollars of added revenue, which is now escaping! That will help everybody else to a little much-needed tax reduction.

Midget Car At San Diego

At last the Pacific Coast is getting some original automobile manufacturing. Not the much-noised Kaiser-Frazer proposition, which wound up at Willow Run instead of in California, nor the Western assembly plants of the old established manufacturers, but a bantam-sized affair to be made at San Diego. The car is already in production in a small way.

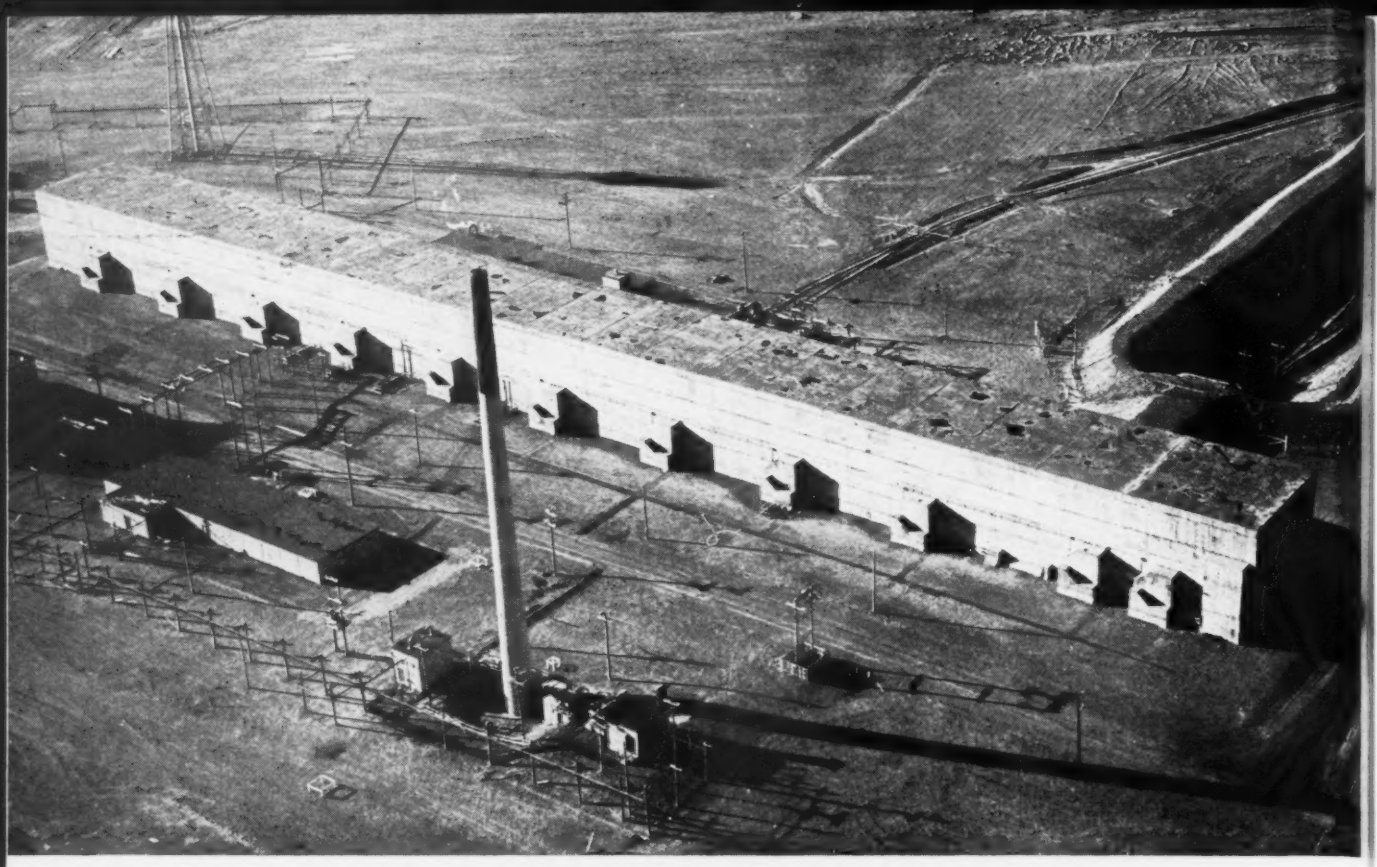
It is similar to the British built Austin, will be built by the Bobbi Motorkar Corp., and apparently has some excellent possibilities, especially for export, if it can live down such a toy-like name. The car is to be powered by a two-cylinder air-cooled engine, mounted in the rear, is to weigh less than 600 pounds and will average 50 miles to the gallon. All models will have fluid drives, eliminating clutch and gearshift, and all will have convertible tops. Expected sales price is $500 to $600.

S. A. Williams, president of the company, is a long-time San Diego resident, described in press reports as a retired chiropractor. The company, which he said was "not a stock selling company," has just been merged with the Aircraft Engineering Company, a former subcontractor of Consolidated Vultee, with approximately $1 million worth of machinery and a plant at Chula Vista.

Williams' plan is to fabricate parts at Consolidated Vultee and to assemble them in a section of Consolidated's Plant No. 2. He says that to reach full production he will need 3,000 to 4,000 workers. As factory manager he will have Roland Tyce, formerly head of the Aircraft Engineering Company. Reports have been current that his chief engineer may be J. S. Liefeld of Chrysler.

He reports having enough overseas orders to keep him running at full capacity for a year, but he plans, however, to sell only 60 per cent export, the remaining 40 per cent being for domestic sales.

• Townspeople in Boise, Idaho, have given the appropriate name "Olson City" to this steel fabrication plant of Olson Manufacturing Company, builders of many products.



• In these buildings at Hanford Engineer Works, Pasco, Washington, plutonium is produced from uranium in chain reaction piles—lattice works of uranium and graphite. To produce one kilogram of plutonium per day, a chain reaction pile must release energy at the rate of 500,000 to 1,500,000 KW, or approximately the amount of power currently developed at the Grand Coulee Dam Station.

ATOMIC BOMBS—1,000 Times Greater

In the following paper given before the American Chemical Society at Seattle, the authors, in addition to discussing problems encountered at Hanford, foretell atomic bombs of infinite destructiveness.

By COL. FRANKLIN T. MATTHIAS
Area Engineer and Commanding Officer
and
MAJ. FRANK A. VALENTE
Chief, Production Unit, Hanford Engineer Works

SOON after the discovery of the fission or splitting of U^{235} in 1939, it was realized that the enormous energy released might have military applications of far-reaching consequences. Here was a source of energy an atom of which could be made to release 50 million times the energy evolved when one molecule of carbon dioxide is formed.

It appeared possible that bombs made of U^{235} would paralyze an enemy quickly and effectively since, for example, if one kilogram of U^{235} fissioned completely, the energy released would be equal to about 20 million kilograms of TNT. Inferential details are left to the imagination!

The facts of U^{235} fission were brought to the attention of the Navy and War Departments by a group of scientists; and as an outgrowth of many conferences and discussions a new organization, known as the Manhattan District, was authorized under the Corps of Engineers on June 18, 1942. The mission of the District was to carry out and coordinate the work on the production of atomic bombs. Prior to this time much experimental work had been going on under the direction of various organizations.

Since uranium as found in nature is a mixture consisting of at least two isotopes, the immediate problem facing the District was the separation of U^{235} from U^{238} in practical amounts, or in amounts measured in kilograms instead of micrograms. Chemical separation was obviously out of question; but several essentially physical means had promise; namely, the electromagnetic, centrifugation, gaseous and thermal diffusions. All of these methods were studied and tried; but the electromagnetic proved eventually to be the first to produce.

In 1940, the element plutonium was discovered, but the details were withheld from publication. The isotype of paramount interest, namely, Pu^{239}, was found later as a result of neutronic bombardment from the cyclotron. With regard to Pu^{239}, theory and experiment indicated that it should and would behave like U^{235}; that is to say, it could be expected to fission when its nuclei captured thermal neutrons; and, as a consequence of which, enormous amounts of energy would be released.

Here then was a potential substitute for U^{235}, possessing the marked advantage of being chemically distinct from its uranium matrix. Its chemical separation from uranium was a definite probability; but much of the plutonium chemistry had to be learned from about 0.5 milligram quantity

of the element. As a matter of interest, from the date of discovery to September 1942, a considerable amount of knowledge was acquired from one microgram of plutonium.

The Manhattan District decided to produce plutonium in practical amounts, and for this purpose it created the project known as the Hanford Engineer Works.

I. The Basis of the Process of Plutonium Manufacture

a. Conservation Laws: A brief review of the present status of the fundamental laws of conservation of matter and energy will help us understand the reason for the enormous energy releases observed in the case of fission or atomic splitting. Lavoisier in 1774 and, recently Landolt[1] in 1908, demonstrated that although matter may be altered in state or form during a chemical reaction, the initial and final quantities remain equal. The work of Joule and Mayer, among others, led Helmholtz to formulate the law of conservation of energy in 1827. Both laws were considered for some time to be separate and distinct; but, in 1904 Hasenöhrl[2-3] showed mass and energy to be equivalent in the particular case of electromagnetism. Einstein in 1905 proved that the relationship was a consequence of the Special Theory of Relativity.

The equivalence of mass and energy may be stated in words, thus: the quotient of energy to mass is constant. The constant of proportionality is the velocity of light, squared. Mass, perhaps, may be looked upon as the condensate of energy.

What does this law mean? Let us illustrate. If 1 gram of matter is completely converted into energy, 2.1 x 10^{10} kg. cal. are obtained or roughly, the energy released by 3,000 tons of coal. In the classical experiment of Landolt, on the conservation of matter, he indicated that his method was reliable to about 0.03 mg. The question may well be asked, "How much energy should a chemical reaction release before a change of 0.03 mg. would be indicated by a sensitive balance?" And the answer from a calculation shows that over 600,000 kg. calories would be required—approximately 200 pounds of coal.

In this connection, perhaps a more ominous strain can be introduced. When one atom of U^{235} fissions, or splits, 200 million electron-volts of energy are released; but, if the mass of one atom of uranium could be completely converted into energy, 200 billion electron-volts would be evolved.

If the key to the mechanism releasing this energy explosively is found, then, on a comparative basis, bombs 1000 times more efficient than the present type are possible. This point, in any case, is aside from the probability that developments, inventions and discoveries in pure and applied nuclear physics will eventually make the current bomb models obsolete—and, by comparison, puny. Here, indeed, is food for thought.

b. Chemical and Nuclear Reactions: Chemical reactions involve interactions among the outer orbital electrons, and the energy released or absorbed usually amounts to a few electron-volts per molecule—about 4 ev in the case of CO_2. On the other hand, nuclear reactions involve transformations in the core resulting frequently in the change of the identity of the atom; and, like their chemical counterparts, may be exothermic or endothermic; but, the energy evolved or absorbed may frequently vary from 1 million to 20 million electron-volts. These are a few characteristics distinguishing nuclear from chemical reactions.

The formation of helium, for example, from interaction of protons and neutrons may be considered. Two protons plus two neutrons yield one helium atom, and in this synthesis about 28 million electron-volts are released per atom, or about 7 million times the energy evolved when one molecule of carbon dioxide is formed. The reaction may be written symbolically, thus:

$$2\ {}_1H^1 + 2\ {}_1n^0 \longrightarrow {}_4He^2 + Q$$

$$2 \times 1.00813 + 2 \times 1.00893 = 4.00389 + 0.0302$$

We see that the sum of the masses of the reactants exceed that of the resultant, helium, by 0.0302 mass unit. This amount of mass had disappeared and has reappeared as kinetic energy of the helium atom.

According to Einstein's law of equivalence of mass and energy, this amounts to about 28 million electron-volts (1 mass unit is equivalent to 931 million electron-volts). This amount of energy may be looked upon as the binding energy of the helium nucleus, and would be the energy required to break the helium core into protons and neutrons.

Another distinction possessed by nuclear reactions is the fact that if we know the masses of the proposed reactants and resultants, we can predict whether or not the reaction will occur. If the indication is that it will not occur, we can calculate the amount of kinetic energy required by one of the reactants in order to produce the desired result.

Fission, or atomic splitting, is a term which applies to another type of nuclear reaction releasing very large amounts of energy; and, in the particular case of U^{235}, the energy results from the conversion of a small fraction of the total mass of uranium into energy; roughly, 0.1 per cent.

c. Fission: Historically, Fermi[2] was the first to begin the bombardment of uranic nuclei with neutrons in the hope of obtaining transuranic elements. For some years afterwards it was believed that elements 93, 94, 95, and 96 had been discovered.

But in 1939, Hahn and Strassman[3] obtained unquestionable evidence that certain of the disintegration products, found when uranium was bombarded with neutrons, were isotopes of Ba—an epochal discovery. Meitner and Frisch[4] suggested that, upon the absorption of a neutron, uranium split into two nearly equal masses; and, to this process, or new type of nuclear reaction, they gave the name fission. Bohr and Wheeler[5] have given an extensive treatment of the mechanism of fission.

Nazis Just Missed It

According to Fermi, he might have observed fission in 1934 but for a very thin strip of aluminum foil in his apparatus,—perhaps a fortunate accident since it may have retarded the development of the atomic bomb by the Germans.

When fission occurs, the atomic cores break into two very highly excited nuclei or fragments of comparable, but not equal, masses; the sum of their atomic numbers being equal to that of the parent element. For example, the fragments may be Ba and Kr which in turn decay radioactively by beta emission in order to attain stability.

In the case of uranium, it is the rare isotope U^{235} [6] which captures a thermal neutron and splits in the two highly excited fragments, yielding one to three neutrons of very high energies, and releasing about 200 million electron-volts per atom. This amount of energy is about 50 million times greater than the energy released when one molecule of carbon dioxide is formed.

The two highly excited fragments of nuclei tend to reach stability by the emission of beta and gamma rays, becoming successively different elements. As a consequence, two groups of radioactive elements are produced: one from the heavy fragment; and one from the light.

Uranic fission has three implications of major importance: first, the possibility of a self-sustaining chain-reaction because each fission produces one to three neutrons for each neutron absorbed; second, production of radioactive atomic species; and third, the release of enormous amounts of energy—approximately 0.2 of the amount released when one hydrogen atom is annihilated.

Chain Reaction

d. Chain-Reaction: A stray thermal neutron captured by U^{235} produces fission; and, as indicated before, one to three neutrons are expelled from the shattering nucleus. If these neutrons are slowed in a suitable lattice work of uranium and a moderator, such as graphite, the process of uranic splitting can be self-sustaining or even accelerating. In order to do so, the neutron birth-rate must be equal to, or greater than, the neutron death-rate.

(Continued on Page 34)

1) H. Landolt, Berl. Ber., 301 (1893); 266 (1906); 354 (1908).
2) E. Fermi, Nature, 133, 898 (1934).
3) O. Hahn and F. Strassmann Nautrwiss, 27, 11, 89, (1939).
4) L. Meitner and O. R. Frisch, Nature 143, 239 (1939).
5) Niels Bohr and John A. Wheeler, Phys. Rev. 56, 426, (1939).
6) H. L. Anderson, B. Fermi, and H. B. Hanstein Phys. Rev. 55, 797.
7) E. McMillan and P. H. Abelson, Phys. Rev. 57, 1185 (1940).

ATOMIC *(Continued from Page 33)*

The balance between these two rates is determined by four processes competing for neutrons: first, escape from the lattice work; second, non-fission capture by uranium, (principally, U^{238}); third, capture by impurities; and fourth, fission capture. If the neutrons absorbed by fission capture equal or exceed the number lost to the first three processes, a self-perpetuating chain reaction occurs; and the uranium-graphite lattice work constitutes a structure known as a pile.

Plutonium is manufactured during a chain-reaction in a pile . . . U^{235} and U^{238} being involved in the transformation, in a manner indicated below:

$$U^{238} + {}_0n^1 \longrightarrow U^{239} \xrightarrow[23.5\ m]{} Np^{239} + {}_{-1}e^{\circ}$$

$$Np^{239} \xrightarrow[2.33\ d]{} Pu^{239} + {}_{-1}e^{\circ} + Y$$

Plutonium is an alpha emitter, but its half-life is 24,000 years, making it a comparatively stable element. Neptunium, the parent element, was discovered by McMillan and Abelson[7] in 1940.

e. Piles: As indicated above, piles are lattice works of uranium and graphite. If it were desired to produce a kilogram of plutonium per day, a chain-reacting pile would have to release energy at the rate of 500,000, to 1½ million KW or approximately the power currently developed by the Grand Coulee Dam Station.

To remove this quantity of heat, an efficient cooling system would have to be designed and built. In the case of the Hanford Piles, water is used as a coolant, although helium was first considered. For this purpose, the Columbia River forms an excellent source of relatively pure water, although further chemical treatment is required in order to prevent metal corrosion, and formation of undesirable deposits.

Since uranium reacts chemically with water, it was necessary to either coat or jacket the pieces or slugs of uranium with a protective material such as aluminum. The problem turned out to be a very difficult one; but eventually, it was successfully solved.

The slugs remain in the pile for a definite length of time before they are discharged, a time determined by the amount of plutonium enrichment desired.

After they are discharged from the pile they are cooled in the radioactive sense, which permits a considerable amount of activity to decay in intensity. In due course, the discharged slugs are taken to a chemical processing area for the separation of plutonium from its uranium matrix, and from the highly radioactive fission products.

II. Chemical Processing

In the chemical processing, several grams of plutonium have to be separated from several thousand grams of uranium in addition to amounts of fission products comparable to the quantity of plutonium present. The required purity of the separation is very high, and therefore complicates the procedure.

Several methods of separation were studied; namely, volatility, solvent extraction, adsorption, and precipitation. Precipitation was decided upon because at the time of deciding which process to use at Hanford, it was farthest advanced and gave promise of success.

In radiochemistry, the method of carrier precipitation is frequently employed as the involved quantities are small; and this is essentially the Hanford method. Briefly, small concentrations of the same, or some other element, are carried down with the carrier precipitate. For example, radioactive barium is carried down with a barium sulphate compound.

The mechanics of separation are based on the alternation between the IV and VI oxidation states of plutonium. In the IV state, plutonium precipitates out with a certain carrier. The precipitate is then dissolved, and plutonium is subsequently oxidized to the VI state. Reprecipitation of the carrier compound then follows; and plutonium in the VI state remains in solution.

Left in Solution

The fission products which do not carry with the carrier compound are left in solution when plutonium IV is carried. The fission products which carry however, are removed when plutonium is in the VI state. Thus, a succession of oxidations and reductions result in the removal of the fission products and the degree of decontamination desired determines the number of oxidation-reduction cycles employed.

In June 1943, a decision had to be made on which process was to be used at Hanford in order to proceed with the design of the chemical plant. Several precipitation processes had been studied; and because these possessed both desirable and undesirable features, it was decided to use a combination process which incorporated the advantages of each. For example, one process which might give good decontamination would be inefficient with respect to the separation from uranium.

Expectations Exceeded

The process as finally chosen has fortunately exceeded expectations. The yields and the degree of decontamination obtained are high; and the choice, strangely enough, was based on chemical knowledge much of which was learned from much less than a milligram plutonium.

The chemical process at Hanford has to be carried out by remote control behind thick shields, and the separation equipment is housed in a series of adjacent cells with heavy concrete walls.

III. The Bomb

If U^{235} or Pu masses attain a certain size they will split explosively as soon as one stray neutron is captured by the atomic neucli because, as in the case of an operating pile, a chain-reaction is established; but, below the critical value, the conditions required do not exist. This critical mass is believed to be not less than 2 kg nor more than 100 kg.

Thus to produce an explosion of an atomic bomb, masses individually below critical value must be brought together quickly. An efficient explosion requires that the parts of the bomb must not be separated appreciably before a large fraction of the nuclear energy is released.

Thus two speeds are the controlling agencies: first, the rapidity with which the neutrons produce fission; and second, the rapidity with which the bomb components fly apart. The faster the former and the slower the latter, the more efficient the bomb. The efficiency is further improved by the use of an envelope or tamper, and it serves two functions: first, it reduces the number of escaping neutrons; and second, by increasing the inertia, slows the rapidity with which the bomb components fly apart.

At the maximum efficiency of 100 per cent, the bombs as constituted at present produce 200 million electron-volts per atom since only 0.1 per cent of the mass of the uranium or plutonium atoms is converted into energy. If later it becomes possible to completely change the mass of one atom of uranium into energy, 200 million electron-volts per atom would be released. But, apart from this possibility, it appears certain that new and progressively more destructive atomic bombs will be made, since in this respect the world is at the threshold of an epoch and not at the end.

IV. Conclusion

The atomic bomb is no longer a dream but a stark reality. Its effectiveness as an agent of destruction is attested to by Hiroshima and Nagasaki.

Once again, the Hand of Science has rubbed Aladdin's lamp and the jinn have brought forth a giant. In the distance, we can now see the form of another, 1,000 times greater and stronger than he. This giant is a promise or a threat. He would serve us if we will; and perhaps destroy us if we won't.

COMPARATIVE COSTS OF TYPES OF POWER

According to Dr. Luis W. Alvarez, costs of various types of power of 1,000 kilowatt hours are:

Cost of coal	$ .18
Fuel oil	.45
Gas in automobiles	1.40
Electric power at plant	2.00
At 100 miles	4.00
100 octane gas	6.00
Electric power for small customers	30.00
Bread	50.00
T.N.T. (in U.S.)	125.00
T.N.T. (in Tokyo)	2000.00
Flashlight batteries	8000.00
Atomic power	100.00

• In the press of war, Negroes played a vital part in industry as well as in our armed forces. But with the end of the war the acuteness of the labor shortage has lessened. As a result of this a new problem is now becoming acute—that of just what place the Negro will be allowed to fill in the West. Whatever the answer may be, the fact remains that the problem is a rapidly growing and important one.

Negroes in the West . . .

They are here to stay. They do present a problem to industry. The following presentation of fact and opinion constitutes an examination of the problem by one man. To solve the problem, which is yet to become acute, extensive studies must be made.

By CLYDE S. COOK
Personnel Consultant

This article was prepared at *Western Industry's* request because of Mr. Cook's success in integrating Negroes into the working force in wartime when personnel manager for Heintz & Kaufman, Ltd., of San Bruno, California.

INDUSTRY will employ Negro workers for one of two reasons: voluntarily, out of a sense of social justice and social responsibility, or else because management is forced to employ them.

This force may be in the form of (a) shortage of other qualified workers, (b) union insistence on no discrimination, (c) government fiat, or (d) force of public opinion or of pressure groups.

Regardless of the belief or feeling of management that the Negro citizen is entitled to job opportunity, management may be deterred from making such opportunity available to him for one of the following reasons:

(a) Belief that Negroes do not make good workers.

(b) Fear that white workers will show resentment of such employment either by quitting or by a reduction in productiveness. Lowered production may be deliberate, used as a weapon of resistance; or it may be the result of emotional disturbance which lowers the morale of the working force.

(c) Union opposition. This may be unofficial, or it may take the form of Negro exclusion from union membership.

(d) Fear of public resentment which might result in tension or even in boycott.

The validity of these reasons for not employing Negroes can be determined only by an accurate appraisal of the attitudes and beliefs of management representatives, workers, union leaders and the public. A belief held by a management man may be contrary to fact, but as long as he holds that

(Continued on pg. 36)

NEGROES *(Cont'd from pg. 35)*

belief, the belief—not the fact—will determine his decision.

For instance, if a management man holds the belief that Negroes do not make good workers, he cannot be blamed for not hiring Negroes. But he can be blamed for faulty thinking in that he errs in substituting "all" for "some."

The fact is that some Negroes are poor workers, and some are excellent workers. The same is true of white people. Men should be judged as individuals on their own behavior; and groups should not be damned for the faults or lacks of individual members.

Since the continuance of any management rests upon the foundation of good judgment, certainly management men should have the desire to see that in regard to employment of personnel, as with other matters, their beliefs are based upon sound analysis of facts and not upon prejudices and untrue assumptions. Mark Twain's wise observation, "So many things that people know just ain't so," applies to the beliefs many people have about Negroes.

Check the following allegations against statistics and the findings of scientific research (the facts will prove surprising): That Negroes have a characteristic body odor; that Negroes are careless about health and cleanliness; that Negroes are syphilitic; that Negroes are of inferior intelligence; that Negroes are guilty of a large percentage of absenteeism; that Negroes receive more garnishments than white people; that Negroes are unaccustomed to exacting industrial discipline; that Negro workers are unreliable and generally less satisfactory than white workers.

For the management men who wish to or must employ Negroes there is the problem of integrating those workers into the work force with the minimum of friction and resentment between Negroes and whites, so injurious to morale and hence to production. Many methods have been used.

Restricting Negroes

One method is to limit the use of Negroes to restricted occupations, such as custodial and janitorial work or in the common labor classifications. This the Negroes have long resented, as they are denied opportunity for advancement according to their knowledge and ability. It also deprives management of the services of men and women with qualifications needed by management in the attainment of management's objectives.

A method of utilizing the full skills of Negroes without mixing them with white workers is to segregate them into shifts or departments by themselves—Jim Crow departments or shifts. One plant employing a large number of women hired white women for the day shift and Negro women for the night shift. This type of placement is again resented by the Negroes and results in low morale. It was probably no accident that Negro women did not get the more desirable day shift.

Another device used particularly where management *must* hire Negroes, as is the case where the company is working on government contracts, is to hire just a token group of Negroes. By limiting the number of Negroes on the work force, management hopes to reduce incidents of friction growing out of prejudices against the Negro. While this may be looked upon as proof of having met the terms of the contract, it does not give the Negro economic opportunity and does limit management in the use of needed skills and abilities possessed by some of the Negro job applicants.

Another limiting device used is that of proportional employment, which means that the number of Negroes taken into the total work force is limited to a percentage equal to that of Negroes in the total population of the area.

Integration of Negroes into the work force, however, can be best accomplished by hiring, disciplining, promoting and discharging the Negro according to the same criteria used for the white. Thus, the Negro worker who is a poor worker, because of poor training or poor attitudes is not hired or is quickly discharged. The good Negro worker is hired and his best abilities are used.

Prejudices Held

However, management must realistically recognize that prejudices against the Negro worker are held by some white workers, and, on the other hand, many Negroes have developed unhealthy defensive mechanisms (to use a psychological term) against that prejudice. Meeting this prejudice and its accompanying defensive mechanisms requires a definite attitude and understanding on the part of the management representative handling the problem.

This management representative must have a thorough understanding of the problem and of the origin of prejudices. He himself must be fairly free of racial prejudices. He must have a sense of proportion, a ready sympathy for both sides of the question, and the saving grace of humor in times of stress. He must have the ability to sense racial tensions and have the fortitude to move into them before they get out of hand.

When he does sense racial trouble in the work force, he can relieve that tension to a large degree by getting both the white and non-white to "talk out" their tensions to a member of his staff trained to listen—the therapy of emotional catharsis; and by taking a firm stand that the Negro worker will be supported in his right to equality of treatment by management — including equal liability to discharge. Too many people who have the desire to be without prejudice in racial matters lean too far on the side of the minority, and put all blame for trouble and all responsibility for remedial action on the whites.

Inter-Racial Knowledge

Someone with an intimate knowledge of inter-racial affairs should be available to answer questions put by the supervisory staff. This will enable them to reach within their own minds a solution to problems growing out of false notions. Care must be exercised not to give a Negro a job for which he has not been trained and for which he is not qualified. To do so will only result in frustrations to the Negro and heightened prejudice against him as a worker.

Where Negro workers have never been employed before, all interested groups should be told in advance of management's decision, with reasons why it was made, and an effort should be made to get support for the program. These groups include the hierarchy of management, union officials, the natural group leaders, and where needed, the community leaders.

It will be well to get in touch with those organizations in the community whose function is to reduce racial tensions. From them useful counsel and assistance may be obtained both in the techniques of dealing with prejudice and in the favorable conditioning of public opinion. Among these are mayor's committees, councils for civic unity, inter-racial committees, and other human relations and inter-group agencies.

It is well for a representative of management to become acquainted with some of the Negro leaders of the community so that their aid can be secured in helping their own people to adjust properly to situations. Removing racial tensions is not a one-way street to be traveled by whites alone. The Negro worker must exercise control and understanding tolerance just

POPULATION FIGURES

According to figures given at a recent clinic on housing problems held in San Francisco by officials of housing, surplus property and other government agencies, latest estimates of negro population in the San Francisco Bay area and the Los Angeles area are as follows:

	1940	*1945*
Los Angeles Area.....	65,000	250,000
San Francisco Area....	20,059	107,500

In the Puget Sound area and the Portland-Vancouver area the negro populations were as follows for 1940 and 1944, according to figures released by the U. S. Bureau of the Census:

	1940	*1944*
Puget Sound Area.....	5,242	9,792
Portland-Vancouver Area	2,105	11,316

Though no figures are available on the increase in the negro populations of Denver and Salt Lake City, it is believed that substantial increases have been made over the 1940 figures which were 7,836 and 694, respectively.

as the white worker must learn it, if there is to be harmony in the work force.

In fairness to all, and in order to forestall any suspicion of Jim Crow attitudes, the Negro workers should be distributed proportionately in all departments and shifts where the Negro is qualified to do the job. Personnel should keep a monthly percentage report as a check against the development of any Jim Crow department or shift. And this is the only "percentage" test that it is advisable to apply.

Where Negroes are thus integrated into all departments and shifts according to their abilities, all new white hires must be so told at the time of the hiring interview. Their acceptance of the situation, and of the use by both groups of the facilities of the plants—recreation, lunch rooms, toilets, and washrooms—is one of the conditions of employment.

Care should be taken to note the place of origin of the white worker. If he is from the south, special care must be taken to make it clear that the acceptance of the Negro worker on a basis of work equality is a requisite condition of employment.

Responsibility of the Negro

The Negro applicant must understand that he represents not only himself but his whole race, and that he must conduct himself accordingly. He must be made aware of the unhealthy defensive mechanisms that complicate his situation, the over-aggressiveness, the fawning submissiveness, the over-talkativeness, the unwillingness to admit mistakes and ignorance—all of them techniques of the poorly adjusted person. And this pre-induction training in attitudes must be done on a "man-to-man" basis, or it will be resented and rejected.

Whenever management has definitely decided to integrate Negroes into the work force and has made this policy known to the workers, there has been little difficulty experienced.

Prejudices and timidities are common to both management and the labor force. Management must take the initiative, and need not be defeated or over-awed by an initially negative attitude on the part of "some" white labor.

The hiring of Negroes can be classed as a social problem, a racial problem. It is an industrial problem, a management problem. It is a management problem because management must meet its social problems if it is to survive.

Our major problem is to obtain consideration of all workers for all industries solely on the basis of occupational qualifications.

Management must meet this social problem of employment for all—regardless of race, color, creed, or origin of ancestry—or it may be forced to do so by legislation, legislation that may be onerous to management and restrictive of management's right to manage.

What Not To Do In Wage Negotiations

Tyros in labor relations, such as presidents, vice-presidents, general managers and other top executives, should stay away from the collective bargaining table and let someone with real experience in that specialized field handle the job.

So said the leading article in the December issue of *Western Industry*, written by a close student of Western labor relations. He had seen management come to disaster many a time as the result of such amateurs being outwitted by labor union spokesmen who had many years of full-time experience in doing nothing but get better conditions for their men.

And now comes another man who knows whereof he speaks. In the accompanying article he tells employers that they had better stop, look and listen before they barge into wage negotiations with the idea that they can tell the unions to jump in the river.

IN wholeheartedly supporting the statements in the leading article in the December issue of *Western Industry*, I would like to add three or four sidelights culled from a good many painful years of experience in labor relations on behalf of management.

What is a matter of continual surprise to a professional consultant in this field is the unerring instinct of the ordinary employer to immediately do the wrong things once his plant is being "organized."

He fails to get professional help until his situation is thoroughly scrambled and it is then too late. He is given to making public statements which many times he is later forced to retract and finally, in spite of the Wagner Act, he *will* try to influence his employees to stay out of the union.

Only once in ten years have I had an employer consult me ahead of time on "What *not* to do" in this critical period.

Another recurring phenomena which deserves mention is the fact that four out of five employers have the feeling that—for some unaccountable reason—they are blessed with that little touch of genius which makes them a natural-born negotiator! The union negotiators encourage this obsession and why not? Pride still goeth....

A professional negotiator can run through a set of union "demands" and, from long practice, pick out the "dead cats." If you are unfamiliar with deceased felines, those are the "phonies" that are stuck in with no hope or expectation that they will be acepted by the employer.

They are put in for trading purposes only, but unless you recognize them as such you may establish a precedent by accepting one or more of them. This makes it tough for all other employers.

Employers ordinarily are familiar with discounts, but for some strange reason they fail to discount statements by their own employees. An employee, almost without exception, will tell his employer what he believes his employer *wants* to hear. It is a very human impulse, but don't overlook your discounts.

Don't try to do your negotiating through the daily newspapers. Avoid "press releases" and full page ads telling how noble you are and intimating what a bunch of high-binding, unreasonable so-and-so's the union boys are. The finest newspaper interterview usually consists of two words—"No comment."

The vagrant thought often comes to the mind of John Public that if the employer can afford those full-page spreads, why can't he spend the same money raising his wage scales? Unreasonable? Probably so, but who said the public was reasonable? If you are a "good employer"—fair and reasonable—your own employees will spread the word with a conviction that a printed advertisement will never carry.

Most professional negotiators representing management look forward to the day when organized labor employs professional negotiators rather than the current type of militant business agent who is usually young and fluent, but not much of anything else. He is noisy, threating, blatant and given to "putting on an act." He depends on re-election for continuity of office which is not a healthy situation.

The crowning difficulty is that the young man does not always know it when he has received a constructive counter-offer and the employer usually doesn't know how to prove it to him.

Equally annoying to the experienced agent and negotiator for management is the sudden influx of "labor relations experts" who have lately served as analysts, perhaps, with the War Labor Board or some other governmental war agency.

Usually fresh out of college and with no experience either as an employer or as an actual negotiator, they are another hazard facing industry. They fail to realize that in their former occupation, they have had the authority of the Federal Government and public opinion behind them.

Some few may be adaptable, but the others are going to learn what real labor relations are—at management's expense.

South Americans Have Money for the West.

By DR. CHARLES RICHTER

Important as it may be to place heavy emphasis upon trade possibilities with China and the great areas of the Orient, Westerners should not overlook the importance of the South American market to their rising industrial empire.

Prior to the outbreak of the recent war the West's trade with the East Coast of South America, specifically the great countries of Brazil and Argentina, and the small but healthy republic of Uruguay, did not rank high in comparison with its trade with the Orient. Nevertheless it came to over $4 million in 1939, better than a third of the total West Coast trade with all of South America as shown on the accompanying table.

Compared with exports to Japan, our biggest West Coast customer in the years before the war, which took over $100 million worth of goods from West Coast ports in the same year, the figure of $4 million does not amount to much.

But times have changed in the past six years. The day when Japan will again amount to anything substantial as a customer of the West is so far distant that it is not worthy of any immediate consideration. And while China and other Pacific and Oriental areas will eventually largely make up for the vacuum created by the destruction of Japan, excellent indications have appeared that the rising industrial areas of South America will form a market whose value to industry in the West will largely depend upon the aggressiveness with which it is sold.

Tonnage Exported to Argentina, Brazil, and Uruguay From Pacific Coast States in 1937

	Argentina	*Brazil*	*Uruguay*	*Total*
Petroleum Products				
California	17,666	927	382	18,975
Oregon	.....	.....	.....	.....
Washington	.....	.....	.....	.....
Nonmetal Minerals				
California	1,374	173	130	1,677
Oregon	.....	.....	.....	.....
Washington	.....	.....	.....	.....
Metals & Manufactures				
California	.....	.....	.....	.....
Oregon	.....	.....	.....	.....
Washington	.....	600	.....	600
Chemicals				
California	.....	1,270	.....	1,270
Oregon	.....	.....	.....	.....
Washington	.....	.....	79	79
Agricultural Products				
California	1,835	979	430	3,244
Oregon	.....	160	.....	160
Washington	1,176	2,200	.....	3,376
Lumber				
California	2,001	.....	450	2,451
Oregon	1,650	.....	.....	1,650
Washington	3,273	.....	.....	3,273
Paper				
California	.....	317	.....	317
Oregon	218	469	.....	687
Washington	680	.....	.....	680
Miscellaneous				
California	3,501	484	364	4,349
Oregon	184	54	.....	238
Washington	104	76	.....	180

Value of Exports to Argentina, Brazil, and Uruguay From Pacific Coast States in 1939

(in thousands of dollars)

	Argentina	*Brazil*	*Uruguay*	*Total So. America*
California	1,544	1,582	275	10,731
Oregon	328	165	1	1,068
Washington	704	560	17	2,685
Pacific Coast	2,576	2,308	293	14,484
Total U. S.	70,945	80,345	5,183	326,840

Because the most rapidly expanding part of South America's economy is along the east coast of the continent, hence nearer to the industrial areas of the eastern and mid-western part of the United States, it may seem rather startling to picture that economy as a growing market for Western products. Startling as it may seem, however, there are sound reasons for doing that.

These reasons are predicated chiefly on two assumptions: First, that industry of the eastern part of the United States has all that it can do to supply the needs of its own market areas plus the heavy demands that will be made on it by Europe for rebuilding its war-torn areas and industries; and second that the new, industrialized West, which has a potential more than capable of satisfying its own requirements, will be well able to supply goods for the South American market which, unlike any other comparable foreign market, has the money to pay for them.

Reasons for describing the expanding economy of South America as one in which the industry of the West should plan to better its pre-war foothold lie in the developments that have taken place on that continent during wartime. Because the greatest activity there has taken place in the eastern areas of the continent this review will be restricted mainly to the countries of Argentina, Brazil and Uruguay.

First of all the financial condition of the states should be considered. A study of their finances shows them to be in a much better condition than ever before in their history. In Brazil, for instance, at the end of 1943, gold reserves and foreign exchange totaled over $500 million (U.S.). Since then, due to the country's heavy export balance, this reserve has substantially increased.

The same is true of Argentina where high prices, increased value of exports and declining imports—this latter brought about by the exigencies of war—have contributed to the creation of record balances for purchases in foreign markets.

Indeed the financial capacity of Latin American states generally can be gauged by the overall picture of the holdings of gold and exchange by their governments and central and commercial banks. Holdings of these entities amounted to $832 million in 1939. By 1942 they had soared to $1,700 million and by June of the following year their rise had continued to the $2 billion mark. At the end of 1943 it is estimated that this total had gone up again by another $500

million and since then, according to government experts, the rise has continued proportionately.

But the ability to pay for goods is not the only requirement that makes a market. Equally important are the needs of the buyer.

To comprehend the buyer needs of the South American market it is essential to realize that epochal changes are now taking place throughout the continent and more particularly in that part of it occupied by the countries of Argentina, Brazil and Uruguay. These changes take the form of an expansion and diversification of industry that will forever alter the economic life of that great area. Despite difficulties in obtaining necessary materials, dozens of new enterprises have started in Argentina, Brazil and other South American countries in the fields of transportation, mining, manufacturing and agriculture.

Last year, for example, the manufacturing, processing and mining industries, probably for the first time, experienced greater business activity than agricultural pursuits in Argentina. Today, in Brazil, industrial production is 2½ times greater than the production of agricultural and animal goods.

In several countries the establishment of new sawmills is starting to provide for local lumber needs and may soon not only provide for local needs but may even begin exporting. At the same time new pulp wood and paper factories are being established. In Brazil a new $15 million pulpwood and newsprint plant now supplies about 80 per cent of the country's needs.

Similarly in the textile field Latin America is making a strong bid to establish a well integrated industry. From the expanding Brazilian textile industry, four million kilograms of cotton goods were shipped out to seven neighbor countries during a recent period, and from 1936 to 1940, 100,000 new spindles were added in Argentine factories.

In the three countries of Argentina, Brazil and Uruguay the chemical and allied industries, virtually unknown a few years ago, are now making great strides.

Brazil has progressed substantially in mining and is soon expected to step into full production of iron, manganese, aluminum and other minerals. Petroleum production began in that country in 1940. Its shipbuilding, airplane plants, engine, tire and rubber processing plants have multiplied, and before long an all-Brazilian automobile is expected to be coming off the assembly lines.

Regarding the agricultural industries, both Brazil and Argentina have expanded the vegetable oil industry, and the output of castor-bean, tung and edible oils has been increased two and three-fold. At the same time, the food industries, such as those of meat and its by-products, and the dried fruit, vegetable and wine industries are also undergoing a swift expansion.

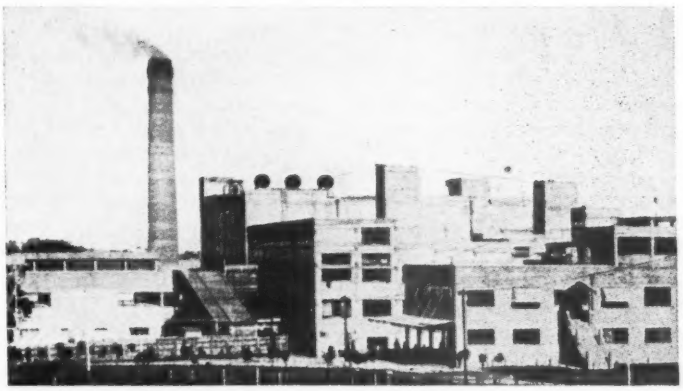
As can be seen from the accompanying chart of tonnage exports from the Pacific Coast ports for the last normal year for which a breakdown has been made, 1937, this ferment of industrial activity in the three republics of Brazil, Argentina and Uruguay, closely paralleled elsewhere in South America, is of deep significance to manufacturers and exporters of the 11 Western States.

Though some might think that because new industries have arisen in those republics, which will in part supply their inhabitants with foods formerly imported from the West and elsewhere, our chances of restoring and increasing our former export trade are diminished, others, who have a clear understanding of the flow of economic tides, will know that such is not the case.

Granted that in some cases a few com-

(Continued on page 40)

• ***Argentina*—Textile industries flourish**



• ***Uruguay*—A modern meat packing plant**

• ***Brazil*— The lumber industry is booming**

FOREIGN TRADE *(Cont'd from pg. 40)*

modities will not have the same market in Latin America as formerly, the fact remains that a growing economy, such as that of the areas under consideration, is a voracious thing. Its ability to satisfy its needs is nowhere near complete. For, as its needs are met, they grow again, and will continue to do so until the day comes when the economy has reached maturity.

Consideration of the accompanying table of tonnage exports from the Pacific Coast, plus what is known of recent developments in South America, gives rise to two main inferences, one, that the rise of South American industry will result in fewer imports from the United States; two, that it will result in more imports. Of these two inferences, only the latter can be true for the next several years.

Exports from the West of petroleum products, for example, which are shown by the table to have been substantial, can reasonably be expected to increase for the next several years. Though Brazil has a budding petroleum industry that has only very lately come into being, the fact that it has an incipient auto industry, that it has a prosperous economy, as indicated by its large dollar balances, that it is experiencing increasing industrial activity, all point to a need for petroleum products which can be satisfied only by imports.

The West now has a manufacturing industry larger than was thought possible eight years ago. Today, therefore, it should be able to go far in satisfying the tremendous new demands for industrial products South America is now experiencing.

Training Programs Should Be Continued

Not Enough Skilled Workers Available In West In Order To Attain Peacetime Production Goal

"Intelligent management will pursue the same or even more intensive training methods (of workers) as were pursued during the war" if it is to reach its goal of peacetime production at the wartime production rate, according to John C. Lee, president of the Menasco Mfg. Co. at Burbank, California, in a recent speech at a conference on management problems.

Lee's reason for stating that a continuance of training methods is necessary lay in the assertion that there were not enough skilled workers in the present labor force to permit a stepped-up peacetime production schedule unless such a policy were adopted.

But even if training schedules are instituted in plants throughout the country the output necessary to reach maximum employment will not be attained unless labor adopts a policy that differs in at least two respects from its traditional one.

These two differences involve ever-increasing hourly wages and the question of union irresponsibility.

Charging that many sections of organized labor "appear to base their program solely on increasing hourly wages, attempting to leave to management all problems of productivity," Lee charged that a continuance of such a policy would prove a losing game for labor. In particular it would drive manufacturers to greater dependence upon special purpose equipment that necessarily has to be operated by low-cost labor.

In speaking of union irresponsibility he said that the tremendous power now in labor's hands should be used wisely by labor, not merely because of its bludgeoning effect upon management, but more especially because of its strongly adverse effect upon labor itself through unrecoverable economic losses it would sustain through strikes and slowdowns.

As an indication of how individual enterprises are striving towards maximum employment he cited the case of his own firm.

Menasco Company, he said, which entered the recent war with a total of 350 employees, has set its postwar production level at the rate of $7½ million a year. Such a level, he said, called for a labor force of approximately 650 more employees than before the war. On the assumption that a single manufacturing job necessitates three jobs in distribution, servicing and non-manufacturing pursuits, Lee estimated that such a program would provide employment for an additional 1,300 workers outside of those added to the plant payroll.

• Looking down the long potroom line at Longview, Washington, where Reynolds Metals Company got its foot in the door of the Western aluminum picture. Back in Washington is going on a fight that will determine whether Reynolds gets any more plants in the West.

Western Steel Lacks Skilled Labor Supply

LACK of men with the technique and inherent skill which makes the worker long associated with steel production an artisan or craftsman, is one of the handicaps faced by the Western steel industry today, according to F. W. Gale, senior staff assistant in the industrial relations department of Columbia Steel Company, who spoke before the annual meeting of the California State Chamber of Commerce.

The bulk of Western potential labor is composed mainly of people without industrial background who have been reared in rural areas and find it difficult to adjust themselves to the routine and atmosphere of a steel mill. He recommended the dissemination throughout the country of advertising which will attract the industrial worker of the right sort.

Indicating the needs of the future, he reported that present steel-making facilities in the West, plus the known expansion programs, will increase the finished product tonnage yield from its prewar total of 800,000 tons annually to a maximum capacity of 2 million tons.

Gale said that steel producers in California are presently scheduling their manpower in most instances to a minimum of 48 hours a week because they lack a full working force. California does not enjoy a position even minutely comparable to the trained labor pools in eastern steel centers, he asserted, and that turnover at best will average around 5 per cent a month in the months immediately ahead.

He submitted a typical situation in approximate figures from one group of mills, as follows:

1800 men entered the armed services. Of that group 40 were casualties, leaving a total of 1760 potential job claimants upon release from duty. To date, 130 have returned to their former jobs and 34 per cent of these have terminated after returning.

These mills are planning immediate expansions which will require approximately 1,000 men; 250 of the 1,000 men will be taken from present employees, leaving 750 men to be recruited. Due to a more or less balanced turnover, there are recurrently each month about 300 job openings (mostly unskilled or semi-skilled). Adding the 750 new openings to a customary month of 300 openings, gives 1050 openings as against a potential maximum load of reemployed veterans of 1630.

This means that if all veterans returned, 580 present employees on veterans jobs would have to be laid off to swell the unemployed ranks. Of course, it is obvious that many veterans have returned and gone elsewhere to work, and therefore the potential load in light of available statistics would give a picture somewhat as follows:

Job openings..	300	due to turnover
	750	due to expansion
or a total of....	1050	

On the basis that 1 out of 5 veterans will return to work, there would be 1/5 of 1760, or approximately 350 veterans returning; 34 per cent of these would not remain, so the total of permanent returnee-veterans would be 196. Subtracting this from job openings would leave 954 job openings to be filled.

Geneva a Luxury Now; A Necessity—Later . . .

AS FORECAST in the December issue of *Western Industry*, the Surplus Property Administration has called for sealed bids for the Geneva steel mill. The question now is who will bid for it, and how much?

Today no one can afford to own it. Ten or twenty years hence, however, no company expecting to hold or acquire a dominating or first-rank position in the Western steel market could afford not to own it. This explains Colorado Fuel & Iron's great interest in Geneva, although today it has no sales organization fitted to market the products Geneva would logically manufacture, and is not strong enough to lay many millions on the line to get the mill.

As for the others, Henry Kaiser will be kept plenty busy making a go of Fontana as a glorified jobbing plant without gathering in more territory, and Bethlehem has built itself up to a self-sufficient point where between cheap South American ore shipped to Sparrow's Point and a big plate market in its own shipyards it does not need to worry about how big anyone else is. Not that Bethlehem isn't already the second largest steel company, and probably will remain so.

So the deal moves around the table again to United States Steel Corporation, the only company (except Bethlehem) who could lay the required amount of cash on the line. Even if U. S. Steel did make an acceptable cash offer, there is always the danger of political opposition or that some competitor owning a share or two of U. S. Steel could prevent a deal going through, or at least delay it for a long time.

It will undoubtedly be 1948 or later before U. S. Steel is actually making tin plate at its prospective $25,000,000 tin plate mill at Pittsburg, Cal. By that time it might easily be ready to take cold rolled coils from Geneva, if facilities were installed at the Utah plant for that purpose.

No one knows now whether the corporation will make seamless tubing in the West. Today that type of pipe, for which the oil industry is the big market, reaches the Western oil fields from its midwestern mills by barge down the Mississippi River, and the Arthur G. McKee survey of Geneva for RFC indicates that Geneva is a good prospective location for a seamless tubing mill.

To make anything else but plate and structurals, Geneva would require additional facilities. To convert the plate mill for strip rolling would cost only about $5,000,000, according to the McKee report, while on the structural mill can be rolled blanks for the production of tubes by the seamless process. McKee estimates the cost of a seamless tube mill at Geneva as $13,000,000.

The McKee report figures the actual cost of Geneva at $190,000,000, the replacement cost at $134,000,000 and the cost of an equivalent plant, eliminating mistakes and defects in the present mill, at $121,000,000. On the basis of the replacement cost, Geneva would be capitalized at $105 an ingot ton, on equivalent cost at $95 a ton. The average for the entire steel industry is $48 an ingot ton, but on the other hand there are some steel mills in the East and Middle West capitalized at $115 an ingot ton, and U. S. Steel might be able to substitute Geneva's output for one of the $115 mills.

A figure of $75,000,000 for Geneva was suggested in the December issue of *Western Industry* as a possible fair value which would capitalize the plant at $60 a ton. Nevertheless, to keep others out or for the sake of public opinion, U. S. Steel might bid quite a bit higher. We'll know when the bids (if any) are opened.

Order for Equipment

Union Pacific railroad company has placed an order totaling $3,740,000 with Colorado Fuel & Iron company for new equipment. Of this amount, $2½ million will be for rails and $1,240,000 for fittings.

Correct Color Can Mean More "Black Ink"

WITH the conversion of many Western plants to peacetime operation and the performance of maintenance tasks delayed by the war, the use of color because of its effect upon production is experiencing a constantly widening application.

Experiences of many firms in the West have shown conclusively that scientific use of color promotes efficiency of operation, quality of production and lower accident rates.

On a machine, for example, the use of the proper color to separate the critical from the non-critical parts is of prime importance. The critical, or operating parts of a given machine, should be given a color that makes them stand out in clear contrast with the other parts of the machine such as the housing which can be termed as a non-critical part.

Chief advantage of such a use is that the worker's eye tends to focus exactly where it should. Thus eye fatigue is cut down since the eye has a markedly less tendency to look at parts of the machine which the worker does not actively use in its operation. If the whole machine were painted in a drab color the worker's efficiency would be lessened through the monotony experienced visually.

But the proper painting of the machine is by no means the most advantageous use of color in a plant. Fully as important is the correct selection of proper colors for application to walls, ceiling, and floor.

MAINTENANCE is one of the most effective methods of insuring a profit. It is a balance wheel that keeps the plant operating smoothly, efficiently and economically, and saves the high cost of emergency repairs. The accompanying material is part of a series of editorial features dealing with maintenance in its varying forms and aspects.

• Suitable color on the critical parts of a machine lessens the fatigue eye strain inevitably brings to workers. Extensive studies show that color applied as in the accompanying pictures results in increased production and improved safety factors. Care must be taken, however, in choosing colors. The object is not that of interior decoration.

Judging from the way in which many factory and plant interiors are still painted one would think that management felt that any color outside of the most somber would tend to distract the worker, causing him to think of something as unrelated to his work as a fishing trip. Actually, however, colors that give an interior a pleasant, cheery aspect, that suggest sunlight, no matter what they may make the worker think about, do put him in a frame of mind in which he evidences a strong tendency to turn out more work and of a higher quality than otherwise.

Yet other psychological effects can be obtained upon the worker by the right use of color on walls, ceiling and floor. In rooms where temperatures are high, colors that will give a cool appearance can be used. Though they won't bring down the heat as shown on the thermometer, they will lessen the heights to which tempers will rise in individuals through their stabilizing effect upon minds and emotions.

The same effect can be obtained in rooms where conditions are the reverse. Warm shades used on the walls of rooms where low temperatures obtain will make those who work there less susceptible psychologically to adverse temperature conditions even though they won't change the height to which the mercury rises.

On walls which may form a background for machines if there is too great, too sharp a contrast in color causing the eye to fight, it is apparent that the energy required to make hundreds of visual adjustments on the worker's part during his shift will give him considerable eye fatigue and cut down his efficiency.

But if the same general tone of color is used on the walls, though not necessarily the same color as that seen by the worker in concentrating on his task, the surfaces encountered by the eye during the work day will enable him to come to the end of his shift with a smaller decline in efficiency than would be the case otherwise.

One peculiar effect that nas been noticed in many plants is the feeling of workers that the ceiling is "bearing down" on them. This is particularly noticeable in a room in which the ceiling is crisscrossed with beams, bracing, wires and pipes. In such a case where reflected light from the ceiling is of no particular importance a color can be selected that will give the ceiling a receding appearance, thus making the worker feel that he has more space and more air in which to work.

Under some conditions, of course, it is necessary to have high reflection. This is especially true of rooms in which indirect lighting is employed. In these it is essential to use colors that have high reflecting quality. In airframe plants, for example, where work on the under side of a wing is being carried on, floor paint of the desired reflective quality will give the correct amount of light diffusion thus raising the efficiency of the workers.

Douglas Fir Supply Good For All Time

We have come to realize that the real asset of the timber-growing areas of Oregon and Washington is the ability of this section to produce trees and not the stand of mature trees now covering our hillsides" said H. V. Simpson, secretary-manager West Coast Lumbermens Association, speaking before the Portland Chamber of Commerce.

"We do not think of our national wealth in terms of grain that may be in the storehouses but we think of its ability to produce regular crops of grain. So in the long view must we consider our forest assets, not the standing timber which is in the storehouse today, but the ability of this country to grow timber for the generations to come. The basic forest wealth is combined values of soil, climate and timber species.

"From a commercial point of view trees should be harvested when their period of fastest growth is ended but before they become fully ripe and before rot has begun. We have in the northwest trees at all ages of growth. We have much land that is covered with seedlings, much that is covered with growing trees, much that is in its prime for harvest, and far too much that is past its best growing years and should have been harvested years ago. These mature forests of the west are an asset for this region today but they are not producing anything for tomorrow.

"With proper forestry, the Douglas fir region never will be exhausted. We have learned that 'timber is a crop.' A tree is a plant. In the period of its younger years growth is rapid and the volume of wood increases materially, until eventually the tree reaches maturity when growth is very slow and the volume of wood that is added annually is negligible. And then the tree will become over ripe and rot will set in; or it will be blown down by high winds or destroyed by fire, and its usefulness is forever gone."

X-Rayed Plant May Cut Amino Acid Cost

By SCIENTIFICUS

BECAUSE scientists have switched X-rays onto a plant, cost of the amino acid tryptophane may drop substantially below its current cost of $1,800 a pound.

Value of amino acids to industry lies in the wide uses to which the 23 known amino acids are now put. Amino products range in their application from use as a seasoning for giving a meat flavor to foods to the treatment of peptic ulcers and as an anti-infection agent in wounds.

Here in the West, International Minerals and Chemical Corporation has recently announced construction of a new $2½ million plant at San Jose, California, for the production of amino products. And as use of the products becomes more extended it is distinctly possible that even more manufacturing facilities for their production may be constructed.

Not all the aminos, of course, command a price such as that of tryptophane. Hystidine, used for peptic ulcer treatment, sells for $454 a pound, and from there on the list scales downward through cystine, at better than $150 a pound, for the treatment of wounds, to mono sodium glutamate which is among the least expensive and which is used for flavoring.

The X-ray bombardment of the plant neurospora may point the way to a lessening of production costs for tryptophane because the experiment indicates the possibility of synthesizing tryptophane from indole or anthranilic acid, or their compounds.

By applying the X-ray to the fungus, neurospora, scientists found that they had created a new strain. That is to say they altered some of the genes present in the plant. With their genes changed it was found that the plants could not survive unless the amino acid tryptophane were supplied in their nutritive element.

Since the plant could survive and grow without the addition of tryptophane before the X-ray treatment, and starved without tryptophane, it was logically concluded that the plant generated its own.

Further experiments, however, showed that it was not necessary to supply tryptophane after the X-ray exposure. Instead, if the plant received only some of the raw materials needed for the manufacture of the substance, it could, even though its genes had been changed by the rays, go ahead and synthesize the necessary amounts of tryptophane.

In one case the substance was formed in sufficient quantities to make the plant grow when only indole was added. In another in which the X-ray had produced a different alteration in the genes, it was found that growth resumed when either indole or anthranilic acid was furnished.

Thousands of laboratory experiments take place for each one that hits the jackpot. The slot machine parallel is not complete, however, since any individual scientific experiment may eventually benefit industry. On the possibility that it may prove of value to industry in the West, the accompanying experiment is presented.

From these phenomena it was only natural to conclude that the presence of indole or these other substances was essential to the synthesis of the $1,800 a pound substance; that they were, at the very least, intermediates in one method of production of tryptophane.

Whatever the eventual results of studies on the nature of the reaction connecting indole and other compounds with tryptophane, the immediate results of the experiment with the fungus currently point to the need for further investigation by amino acid manufacturers.

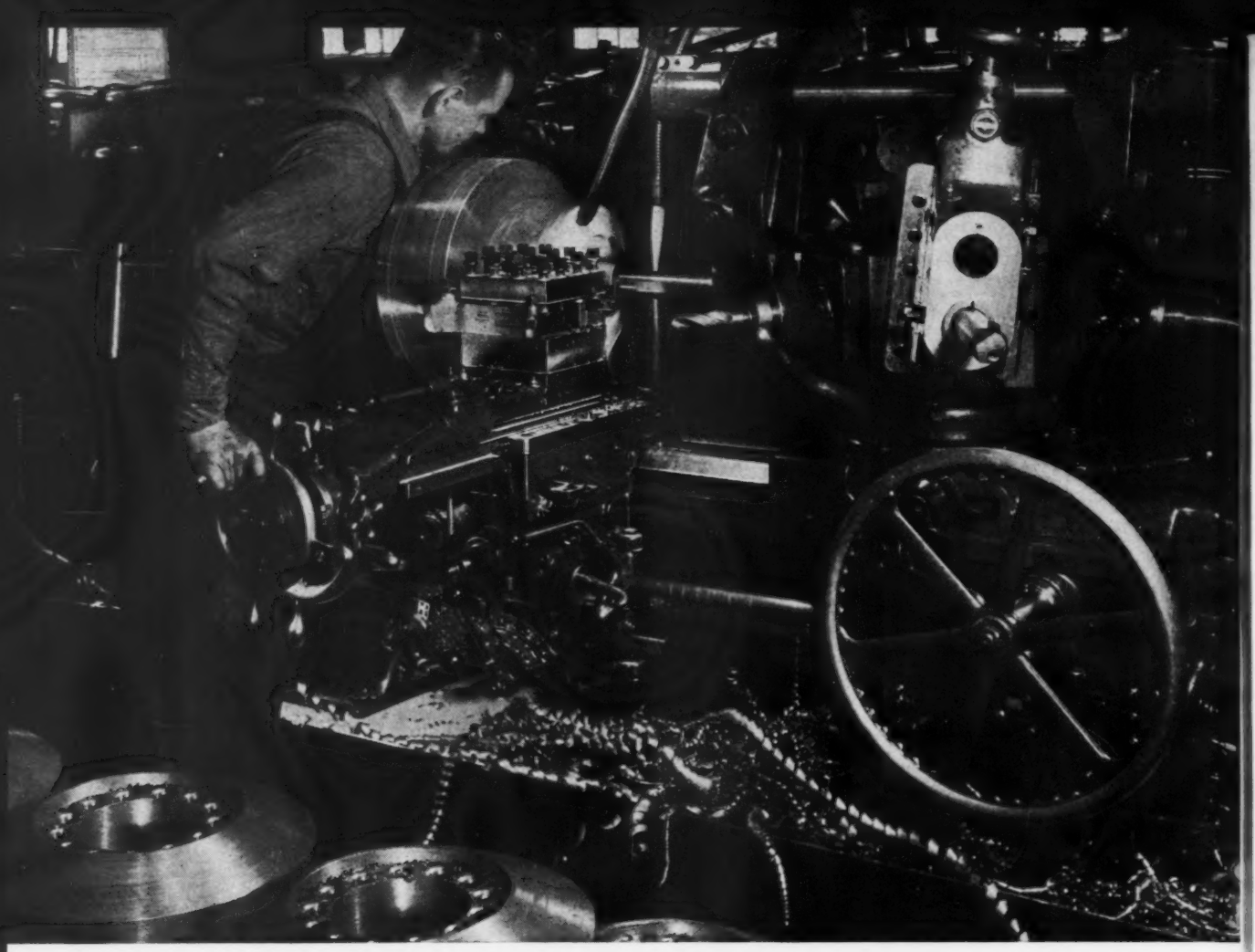
The investigation is needed because a possibility distinctly exists that this expensive product can be synthesized from far less costly substances.

If a plant can manufacture the substance in the course of its fairly rapid growth, quite possibly industry can take a leaf from it, so to speak, and turn out that same substance at a cost far lower than those now obtaining in industry.

This May Be Important, But—

Before reading the following piece of Govermentese, which is the opening paragraph in a release from the Tenth Regional War Labor Board, the reader is urged to take a deep breath.

"In a unanimous resolution announced today, the National War Labor Board which is terminating its work stated that it is not in a position now to decide wage demands which might arise pursuant to earlier orders of the Board in which it had denied general wage increases with the condition that the denial was without prejudice to resumption by the Board upon demand of consideration of the issue or procedure to be followed if there were a change in the national wage stabilization policy."



• Where tools get heavy tests. Turret lathe turning bevel gear blanks in the Portland, Oregon, plant of the Willamette Hyster Co.

DEEP FREEZING TOOLS

Tools That Have Not Been Properly Hardened in the First Place Can Be Brought to the Right Temper through Subjection to Intense Cold

DEEP-FREEZE units are useful in improving under-tempered tools, and make it possible to have every tool in prime condition before use, according to information developed by Wallace MacLean, technical consultant in the San Francisco regional office of Smaller War Plants Corporation. Where a tool is properly hardened in the first place, however, deep-freezing does not provide any improvement.

The request for information, in response to which the information was given, came from Fidelity Machine Shop, San Jose, who said:

"We have a deep-freeze unit and are familiar with the general processing procedure in treating metals. However, we should like to have information on the following specific points:

1. Deep-freeze method used to treat stock high speed drills, taps, reamers, milling cutters, to increase their cutting qualities.
2. Deep-freeze method used to treat carbon steel taps, drills, taps, reamers, milling cutters, to increase their cutting qualities.
3. Deep-freeze method used to treat metal band saws and power hack-saw blades.

"Information on any recent development in the deep-freeze procedure generally will be appreciated."

Replies were received from various sources, as follows:

Stuart E. Sinclair, metallurgist, The Geometric Tool Company, New Haven, Conn.:

Question 1—There are many schools of thought concerning the application of deep freeze methods for improving the performance of tools. It has been my experience that the deep freeze treatment does not improve a properly hardened tool and it also apparently does it no harm. If the tool has been under-tempered the deep freeze treatment will improve the tool. A treatment that has been successfully used is:

1. Cool tool to −100° to 120° F. for 2½ hrs.
2. Allow to warm to room temperature.
3. Temper for 2 hours at 1050° F. The tempering should be done in equipment having good temperature control. A salt bath should be used for they should be protected from oxidation if the tempering is done in a convection type furnace.

Question 2—The deep freeze method should have no effect on straight carbon steel taps, drills, etc.

Question 3—Since band saw blades are carbon steel, the answer to question 2 will apply.

High speed power hack saw blades could be treated as outlined in answer to question

1. However, comprehensive tests were made on the effect of deep freeze treatments on high speed steel hack saw blades in which there was no benefit found for the treated blades.

W. A. Schlegel, metallurgical dept., The Carpenter Steel Company, Reading, Pa.:

The benefits derived from cold treating are not too definitely known. There is one school of thought which claims exceptional properties with tools which have been given this treatment. On the other hand, there is the second school of thought which claims that no benefits are derived by this method of treating.

In general, it has been our experience that if tools are properly treated and tempered little or no added benefit can be gained by cold treatment. This is especially true of high speed steel.

Corrects Original Flaws

Replying specifically to the questions you ask, it is our opinion that high speed tools taken from stock will show added improvement if they, by chance, were mistreated during the original heat treatment. In other words, cold treating will only show a beneficial effect if the tools were not properly treated when first made.

By proper treatment we mean a fracture grain size of at least 8½, an intercept grain count of at least 9, a small percentage of retained austenite, fine acicular drawn martensite, freedom from decarburization, and a rockwell hardness of C-63/65. Since it is impossible to examine every tool for the above physical properties we would recommend that any stock tools should be cold treated to -100/-110°F, held at the low temperature from 1 to 2 hours, and then allowed to return to room temperature.

After cold treating they should be given a second temper which should be equal to that used when the tools were first manufactured and for most high speed steels this temperature will be around 1025/1050°F. The writer is assuming that all stock tools were properly tempered before being placed in stock.

Helps Carbon Steel

Regarding your second question relative to carbon steel taps and drills, the writer is assuming that these tools are made from the hyper-eutectoid steels. With all tool steels which are either eutectoid or hypereutectoid upon heat treating they will retain a certain amount of austenite and this austenite upon cold treating will transform into martensite thereby increasing the hardness over that obtained by conventional methods.

As you know, in the manufacture of tools which must hold size accurately such as plug gauges, thread gauges, micrometer anvils, the retained austenite is usually decomposed by cold treating which later effects the stability of size of these types of tools.

To the best of our knowledge, taps and drills made from tool steel are given the conventional treatment followed by tempering, then cold treating to -110/-120°F., followed by retempering using the same temperature employed during the first tempering operature. Where extreme stabilization is required this process is repeated as often as 6 times.

Relative to the third question, it is our recommendation that power hack-saw blades if made from high speed steels should be handled the same as described above. If they are made from tool steels other than those which show a secondary hardness they should be handled the same as described under carbon steel taps, etc. Band saws for either wood or metal may be handled the same as carbon steel taps.

May we again state that the benefits derived from this type of treatment in terms of longer tool life are still highly controversial. Tools treated in this manner may or may not show added tool life. However, it is well known, and the practice has been followed, to obtain stabilization by repeated heating and cooling thereby decomposing any retained austenite which results in accurate size gauges which hold their size almost indefinitely.

Wm. J. Levy, metallurgist, Ampco Twist Drill Company, Jackson, Michigan:

We wish to advise in answer to question (1) that the usual method is to cool to -110 degrees Fahrenheit and hold for two hours. Alternate method is to heat the finished tools from stock to 300 degrees Fahrenheit and then cool to -110 degrees Fahrenheit and hold for two hours.

In answer to question (2) we have no information as to the advisability of deep freezing tools made of carbon steel. All of the information to date has been relative to high speed steels. We cannot see where deep freezing would increase the cutting qualities of any carbon steel taps, drills, etc.

In answer to question (3) our answer to question (1) applies here as well, as most band saws are made of a low alloy steel and are not comparable to the high speed steels such as referred in paragraph one. We do not believe there would be any beneficial results obtained in deep freezing band saws. However, in the case of the power hack-saw blades if made of molybdenum or tungsten high speed steel, we believe that treatment as outlined for No. 1 would show some benefit.

Additional Patent Information

Abstracts of domestic patents available for licensing or sale are now on file in the Western regional offices of Smaller War Plants Corporation, in addition to information on enemy patents. Information on these domestic patents, which cover the mechanical, electrical and chemical fields, may be obtained from the technical consultants, Wallace MacLean at San Francisco, E. D. Botts at Los Angeles, William Brown at Seattle and Leslie Waymire at Denver. The domestic patents abstracts are clear concise descriptions, and the alien patent list has been alphabetized and simplified so that prospective small manufacturers may find out what they want to know at a glance.

A. R. Dorman, Jr., Morse Twist Drill & Machine Co., New Bedford, Mass.:

Inasmuch as your client in San Francisco has a deep-freeze unit and is generally familiar with the processing of metals by this method, we perhaps need only touch sufficiently on the actual procedure in working at sub-zero temperatures to say that we have experimented with the processing of both carbon and high speed tools at temperatures around 100° below zero.

The temperature, of course, may vary from -90° to -110° and, dependent upon the mass of metal involved, the period of immersion will vary anywhere from 2 hours to 10 hours. There appears to be no cut and dried formula which can be passed along to your client as regards the treatment of any single class of tool such as drills, taps, reamers, etc.

In general our investigations have shown that *provided the tool is properly heat treated in the first place* there appears to be no improvement in the cutting efficiency which can be attributed to the deep-freeze processing. The deep-freeze is acknowledged to offer practical value in connection with stress relieving and hastening the aging of such tools as plug gauges and mandrels, but as noted above and in direct answer to your question, we feel that it has little or no importance in increasing the cutting qualities of tools.

C. J. Oxford, chief engr., National Twist Drill & Tool Co., Rochester, Michigan:

This is a reply to your letter in which you ask about the deep-freeze method of treating high speed steel tools. This method created a great amount of interest in the metal cutting field about two years ago due to certain claims that were made by investigators and users of high speed steel tools regarding alleged benefits derived from such treatment. Subsequently, comprehensive research programs were undertaken by certain colleges and by large corporations, notably the General Electric Company.

We have also carried out a research program on this subject. The conclusions reached as a result of these latter investigations were publicized in papers given at the 1944 annual meeting of the A.S.M. Briefly, what these conclusions state is that if high speed steel tools are properly hardened and tempered there is no traceable benefit from the deep-freeze treatment. It has been found that if tools were undertempered certain benefits could be obtained by putting such tools through the deep freeze treatment.

Frozen Food Packaging is Now Automatic

An interesting development in materials handling techniques in the West during 1945 lies in the use of new automatic equipment for the mechanical volume-packaging of free-flowing frozen foods. Introduction of the machinery means that for the first time the preparation of cartons to receive the frozen foods is handled completely by machine, thus making it unnecessary for workers to prepare each carton manually.

Significance of the introduction of these techniques and equipment to materials handling problems in the frozen foods packaging industry lies in the operational reports that have come from plants using them in Washington, Idaho and California.

According to these reports it is probable that one packaging and several handling operations will be eliminated because of the use of the new volume-packaging machinery and the one-piece carton which it employs.

Yet another indicated result is that through the reduction of manufacturing costs, overall product costs may be so reduced as to enable frozen foods to compete in retail prices with any other type.

The new equipment consists of a unit from 18 to 28 feet in length. The variation depends upon how much of the 10-foot conveyor line—inspection space between filler and conveyor—is used.

At one end of the unit is a magazine into which the flat folded cartons are stacked. From the bottom of the magazine the cartons are removed, opened and erected automatically. As they start along an 8-foot extension space on their way to the filler they pass through a safety mechanism that instantly stops the filler if a carton is either improperly erected or is missing.

When they reach the filler they drop into telescopic pockets. The filler is of a multi-headed type which revolves, carrying the cartons around in a circle until they reach the hopper into which the free-flowing foods, such as peas, beans, kernel corn, berries, etc., are fed. There the contents of each carton drop automatically into volumetric measuring pockets which in turn drop the proper load into the carton below.

From there each carton, loaded, is carried away on another conveyor along which inspection and weight checking are carried out.

After completion of inspection and weight checking, the cartons continue on into an automatic closing device in which, through an unusual locking feature of the cartons, the covers are locked into position.

The closing device, however, does not merely close the cartons. A compression unit contained within it presses and forms the filled cartons into the proper shape which will not only allow them to be packed most economically for shipment, but which also heightens their saleability through increasing their uniformity.

Final step in the job consists of the cartons continuing from the closing device to an overwrapping machine where the last operation takes place.

The machines have been built to operate at speeds of from 30 to 120 packages a minute, but so far reports reveal that speeds of 90 to 95 cartons a minute have been maintained on the production line, and in some instances satisfactory work has been done at a rate of over 100 units a minute.

Some western plants in which this new technique that automatically carries out each step from the flat carton stage to that of the full package in handling free-flowing frozen foods are as follows: R. D. Bodle Co., Seattle, Wash.; Smith's Frozen Food Co., Lewiston, Idaho, and the Bridgeford Packing Co., Santa Rosa, Calif. Some 50 machines will be in use throughout the West for packing the 1946 crop.

Illustrations courtesy Good Packaging

• After cartons are dropped into their magazine unit, shown above, the machine automatically removes, opens and erects them before starting them on their way to the filler. Below, the cartons, filled, are carried on a conveyor along which inspection takes place.

Westerners in Key Foreign Trade Spots

Government Men Abroad Should Be Responsive; Aluminum Stockpiling Proposal at Washington May Help Northwest

One of the best-informed writers at the Nation's Capital, Arnold Kruckman, presents each month authoritative comments on political developments and their practical application to industry of the West. Any reader who wishes additional information may write to him directly, using business letterhead, at 1120 Vermont Avenue, N.W., Washington, D.C. Inquiries will be answered free of charge. You also are invited to contact him personally in Washington. Copies of pending congressional bills may also be obtained free of charge.

By ARNOLD KRUCKMAN

WASHINGTON, D. C.—Recently issued by the State Department is a list of changes in the foreign service assignments particularly interesting to the Pacific West. The composition of the list should have especial significance to the business people of the West who are in foreign trade, or who contemplate the prospect of engaging in foreign trade. Over 33 per cent of the assignments involve persons whose homes and interests are in the West.

Obviously the representatives of the United States in Foreign Missions function on behalf of all the United States and strive to foster the interests of the nation as a whole. It is clear, at the same time, those who hail from a specific region or State have a knowledge of the people and the resources which will enable them to discuss the affairs of the area from a background of understanding and personal appreciation.

In a sense the presence of the Westerners in the Foreign Missions may stem from a realization in Government that the region has a growing potential in foreign trade and other aspects of foreign regulation. As we now know, Ed Pauley has won much respect in Europe for his forthright and hardshell attitude in dealing with the Russians at Potsdam.

Westerners At Work

In the list recently published we find that Arnlioth G. Heltberg, of San Francisco, has been assigned to the important post at Oslo, Norway, as American vice consul. John R. Jacobs, of Palo Alto, is the new American vice consul at Antwerp, Belgium. Paul W. Meyer, of Denver, has been sent from the State Department in the Capital to the post of American consul at Shanghai; and Cabot Sedgwick, of Tucson, Arizona, has been appointed American vice consul in Paris. The new secretary of the Embassy and vice consul at Havana, Cuba, is A. John Cope, Jr., of Salt Lake City. The significantly important post of counselor for economic affairs at the American Legation in Pretoria, Union of South Africa, has been given to Samuel H. Day, of Berkeley, California. The new American vice consul at San Salvador, El Salvador, in the very important Caribbean area, is Jack R. Johnstone, of Wenatchee, Washington. Weldon Litsey, of Laramie, Wyoming, has been assigned to Cali, Colombia, as American vice consul; and Edwin F. Stanton, of Los Angeles, has been made American consul general at Vancouver, B. C., while Orray Taft, Jr., of Santa Barbara, Calif., is the new American consul at Vancouver, B. C. Roswell C. Beverstock, of Los Angeles, has been made American vice consul at Guatemala City, Guatemala. Aubrey H. Harwood, Jr., also of Los Angeles, is the new American vice consul at Port-au-Prince, Haiti; and another man from Los Angeles, Hungerford B. Howard, is American vice consul at Shanghai. From a post at Madrid, the department has brought to the capital Ralph H. Ackerman, of Hollywood; and from Stockholm, it has brought Robert Mills McClintock, of Altadena, California, as well as George Lybrook West, Jr., of San Francisco, and William E. Yuni, of Hoquiam, Washington.

More Westerners

Other Westerners on foreign service are Mervin L. Bohan, counselor for economic affairs at the American Embassy in Mexico City; William A. Carsey, American vice consul at Monterey, Nuevo Leon, Mexico; Thomas A. Grunwell, American vice consul at Beira, Mozambique, Africa; Theodore J. Hadraba, American consul at Bern, Switzerland; Margaret P. Hays, American vice consul at Bogota, Colombia; George Lawrence Keller, American vice consul at Buenos Aires, Argentina; Henry O. Ramsay, American vice consul at Cardiff, Wales; and Earle Richey, American vice consul at Hamilton, Bermuda.

The word persists here that bauxite comparable to the material brought from the Dutch and British Guianas has been found available in great commercial quantities in the Pacific area, and can be brought to the Pacific Coast as an economic operation in competition with the mineral now under virtual control by Alcoa in the Caribbean and elsewhere. The development obviously cannot come to full flower until conditions in the Pacific settle down and are relatively normal.

Aluminum Up To Truman

Meanwhile, Senator Hugh B. Mitchell, of Washington State, put the urgent problems of the disposal of the aluminum plants in the Pacific Northwest up to the President, and from Mr. Truman elicited an expression of "his firm conviction that war plants must be transferred to peacetime work to the maximum extent, and in the shortest possible time, for the maintenance of full production and full employment."

This sounds good as a principle, but does not do very much in speeding the solution of the problems of the people who wish to set the aluminum industry in the Northwest agoing. Senator Mitchell handed the President a memorandum about the disposal of aluminum plants. The Senator stressed the program suggested by the Army-Navy Munitions Board recommending the establishment of a stockpile of aluminum to be purchased by the Government to support an interim market.

The Attorney General's report of September, which recommended that Alcoa be split into a number of competing units, was emphasized. The memorandum repeated the suggestion of the Surplus Property Board, which forecast the probability that direct Government operation, or subsidized operation of the plants, might be a solution.

Stockpiling Bill

Late in November, Senators Mitchell, Morse, Cordon, and Fulbright introduced S 1612, and Congressman Coffee, of Washington, introduced the House version as HR 4841, authorizing RFC to buy not more than 1½ billion pounds of primary aluminum for stockpiling from Government-constructed plants at current market prices, and from stocks in excess of current industrial demands. The Senate bill was referred to the Senate Banking and Currency Committee, and Senator Wagner promptly appointed a subcommittee to investigate and report, the subcommittee consisting of Senators Mitchell, McFarland, Fulbright, Butler, and Millikin.

Columbia Metals and Reynolds have offered to lease plants in the Northwest providing the RFC is willing to guarantee the operators against the greater part of their

KRUCKMAN *(Cont'd from pg. 47)*
losses, or guarantee a market by purchase of excess production for stockpile purposes. Senator Mitchell reported to the President that the RFC is unwilling to accept the terms on the grounds that the terms mean Government subsidies. Mitchell told the President that RFC made a deal with Alcoa during the war by which the Government took 85 per cent of the losses and took 85 per cent of the profits. The same contract was recently proposed by RFC itself to put Government aluminum plants in operation, but later RFC declined to negotiate on the proposed basis with the people who wish to operate the Northwestern plants.

Stalling Implied

The implication in the Mitchell memorandum delivered to the President is that the RFC and the Surplus Property Board are jointly stalling the proposals which would energize the operation of the aluminum plants because RFC and Surplus Property Board fear the uproar that may be raised by public relations counsels employed by Alcoa and other interests.

On the floor of the Senate Mitchell said: "Failure of the Government to act plays directly into the hands of a monopoly group which has everything to gain by a do-nothing policy. The attitude of the RFC smacks of outright collusion with this group, or, at the very least, indicates striking incompetence. . . . In the Pacific Northwest are located publicly owned aluminum facilities estimated to cost $200 million. More than half the public power produced at Bonneville and Grand Coulee has been devoted to servicing the needs of these plants. Dr. Wilson Compton, president of Washington State College, told the Senate that decisions with respect to the disposal of these public properties would hasten or retard the development of the Pacific Northwest for 20 years. An integrated aluminum industry, according to Paul J. Raver of the Bonneville Power Administration, can employ 25,000 workers."

It seems probable the subcommittee of the Senate will hold hearings on the disposal of the aluminum plants. There seems small likelihood the hearings will be held until next month. Meanwhile, the signs are that pressure will be exerted upon the White House, and that a very real fight will be made to force RFC and Surplus Property Administration to act. On the other hand there are many indications that the aluminum interests, opposed to subsidies and operation by other groups, will make a very vigorous fight to prevent the subject from becoming a matter of public discussions in Senate hearings, and will bring the full power of their influences to bear on RFC and Surplus Property Administration. It seems certain the President will do the just thing when the issue finally must be decided by him. He is keenly interested in the Pacific Northwest, and has the counsel of intimate friends in government who are from the Pacific Northwest.

The evolution of the labor problems and the strikes will have a bearing on the immediate outcome of activities related to the aluminum plants. No one here, in and out of Government, labor leaders and business leaders, actually has a clear idea of what may happen. The strikes are not merely differences over wages and hours, they seek to change social as well as economic conditions.

They involve the foundation of American life. CIO wants the Government to have a direct hand in the management of business and industry. The union, in effect, demands what is variously called socialization, nationalization, co-operation, or communization. A substantial number of people here think this is the occasion of the showdown. They think the CIO is trying to achieve the same result in the same manner as the labor government which was brought to power in Britain. Off the record, in the bosom of the family, Government friends here think most planning cannot be valid except on a "day to day basis."

Brokers For Labor

Bear in mind, the CIO is not a labor union in the same sense as the AFL. The AFL is a broker for labor. It sells labor at the highest price, and under the most advantageous conditions it can obtain. It has no primary social or political objectives. It believes in free, competitive, private enterprise, and in the kind of government we now have. The CIO, on the other hand, fights for higher wages and shorter hours purely as incidental to the purpose of securing for the worker a greater share of the tangibles and intangibles vested in those who conduct business and those who own it and get the profits. And CIO has never denied it wants to run the government, even as the British Labor Party runs the British Government.

Here in Washington we think the whole trend stemming from whatever is ultimately behind the strikes will be much clearer by the first of February. We think numerous and various strikes will develop everywhere, making millions idle. If government is unsuccessful in interposing its powers, it is thought the climax will not occur until early Spring. The veterans are expected to have an important influence. Those who have returned appear to be waiting until more of their comrades get back early next year. Their leaders are then expected to emerge, and their weight will go on the side their thought has determined is right. They are said to sympathize with unionism, but it is doubtful whether they will swing as far left as the CIO leads. The National Association of Manufacturers is another important factor.

For the first time in its history it seems to aim at making a favorable public opinion. The new president, Robert R. Wason, once a sailor and dock worker, with brief school education, is head of Manning, Maxwell & Moore, Inc., makers of cranes, hoists, valves, gauges, and similar devices. Wason is a great favorite with eminent New York bankers and corporation leaders. He is salty in his speech, and makes a fine public appearance as a rough and tumble industrialist.

Piloting Public Opinion

Public opinion is the object of much maneuvering and planning here now. Before Pearl Harbor there were approximately 450 trade associations and legal representatives of industry and business in the Capital, fairly near the number of the members of the Congress on the Hill. Today the number of members of Congress is virtually the same; but the representatives of trades and business and industry and similar interests have increased to a number in excess of 2,500, and more are coming as fast as the foreign groups vacate the 5,000 offices and 25,000 dwelling units they occupied in the Capital.

The trade representatives occupy entire office buildings, and they establish themselves with technicians including lawyers, chemists, engineers, economists, statisticians, analysts, but, above all else, with public relations counselors. The public relations counselor is a development of the past decade. We had them before but never in the full bloom they have now reached. It is reported some of them here, ask and get as much as $25,000 for a retainer with fees that sometimes exceed $100,000 for a single undertaking.

High Priest of Pressure

The public relations counselor is the high priest of government by pressure. The effect of his work worries the members of Congress who are unable to winnow the real from the artificial pressure, and who find themselves daily more swamped by demands in the mails, by telegram, telephone, callers, and by picketing parades. The picketing parade on the Hill, singling out specific members of Congress to impress them with dramatic and simplified issues, is rapidly becoming one of the most effective methods of a certain type of pressure. It also probably affords intensive and highly paid employment to certain types of men and women who like bizarre conspicuity, and who are eager to get their pictures in the newspapers.

All this and much more is the machinery of the pressure work employed by the public relations counsel of today. He bears no relation to the press agent of a much earlier day, nor to the publicity man of 20 or 25 years ago. It is his suave and skillful work which has helped to increase the telephone calls which leave the Capital every day in the year from 1,000 in 1914, to 50,000 daily in December, 1945. He has helped to make the bureaucrat an essential of our economic existence. In some senses, he runs the government.

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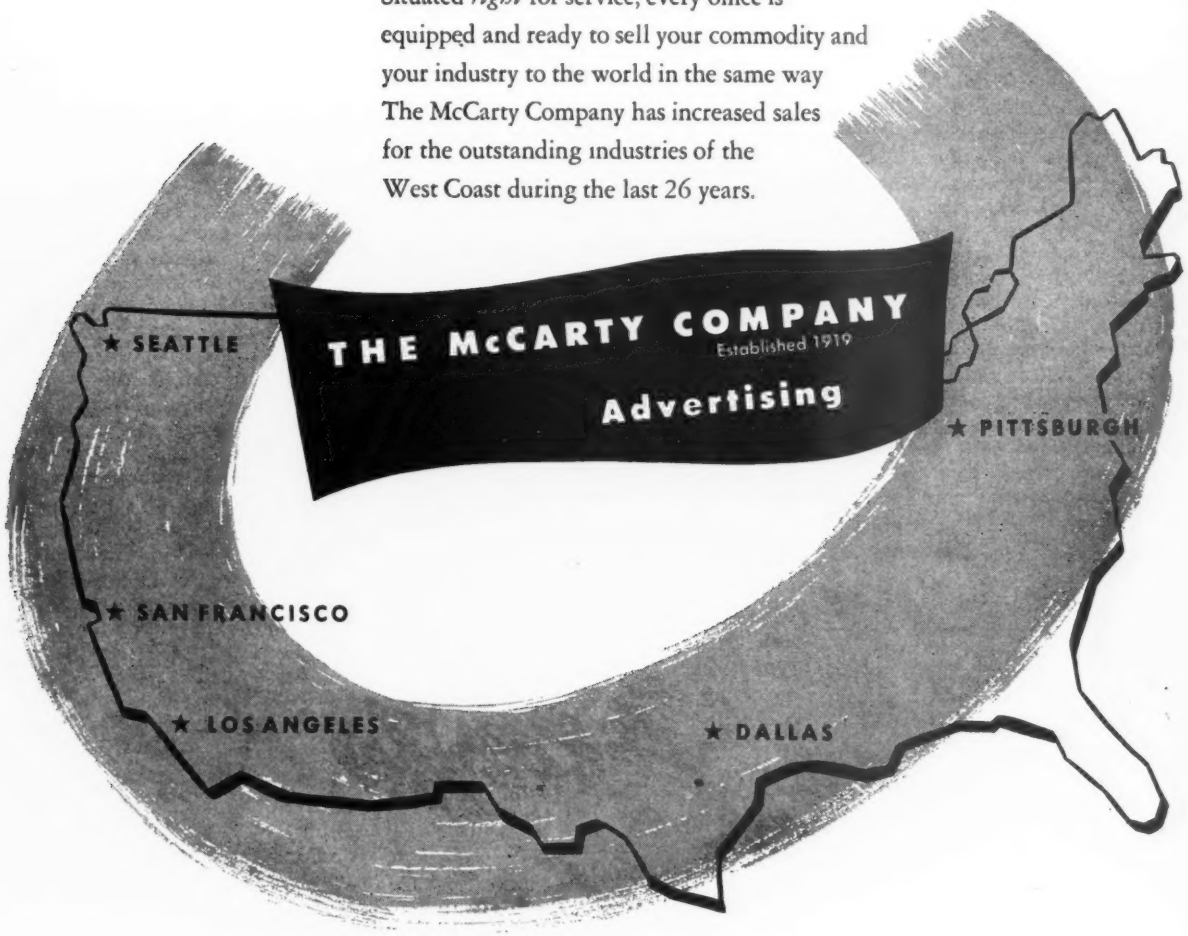


1206 Maple Ave., Los Angeles 15 ★ 116 New Montgomery St., San Francisco 5
2217 Cedar Springs, Dallas 1 ★ Vance Bldg., Seattle 1 ★ 2205 Koppers Bldg., Pittsburgh 19

WESTERNERS AT WORK...

Arizona

W. R. Storms replaces **Thomas Denton** as acting chief of the Tucson Division, Mining Branch, U. S. Bureau of Mines, while **J. H. Hedges,** chief of the division, is on leave engaged in a government mining production program in Germany. Denton has taken position with Potash Co. America, at Carlsbad, N.M. . . .

D. W. Fisher, Phoenix, is president of Arizona Gypsum Co., a new outfit, while **Earl Stark,** formerly with Univ. of Arizona, Tucson, as asst. agricultural chemist, is plant mgr. and chemist. . . . **William Petersen** resigns as member of Arizona Corporation Commission because of ill health.

California

M. M. Mautner upped to vice pres. in charge of industrial relations at Plomb Tool Co., Los Angeles, from admr. asst. to pres. **M. B. Pendleton.** . . . **Nairne F. Ward** appointed group leader in charge of control of technical processes, U. S. Naval Air Station, Alameda. . . .

Frank W. Jones casts aside uniform as Navy Lt. Comdr. to head Light Metal Products Division of Northrop Aircraft, Inc., at Hawthorne . . . Natural Gas Equipment, Inc., makes following shifts: **Robert L. Grutzmacher** upped to exec. vice pres. of firm with hdqtrs. at 540 Petroleum Bldg., Los Angeles; **James C. (Mac) McCluskey,** vice pres. in charge of sales; and **H. F. (Jonesy) Jones** returns to old post as service engineer; **A. C. Staat** transferred to San Francisco office. . . .

J. Fraser Rae

J. Fraser Rae now chief of plastics division of Western Fiberglas Supply Ltd., San Francisco, formerly plastics instructor and consultant, University of Calif.

George F. Nesbitt with San Francisco OPA becomes chief of Industrial Materials and Equipment Section. . . . **Ray W. Smith,** gen. mgr., Downtown Business Men's Assn., Los Angeles, named exec. director, California Apparel Creators.

Howard W. Woodruff, pioneer Pacific Coast shipping man, is mgr. of Los Angeles C. of C. Marine Exchange . . . **William M. Perka** elevated to gen. supt. of shipyard of Marinship Corp. in charge of all yard operations, while **Robert Digges,** upped to gen. mgr. of Marinship, is succeeded by **William R. Ayres** as administrative mgr. . . .

John E. Cushing resigns from War Shipping Adm. to resume position as pres. of American-Hawaiian Steamship Co. . . . **Edwin F. Halloran,** former deputy regional director WPB, now acting regional director of Civilian Production Administration. . . . **James A. Folger** has resumed his duties as pres. of Folger Coffee Co., director of Wells Fargo Bank, and Western Pacific R.R. Co., after completing service in Washington as vice chairman of WPB.

• Anytime a plant superintendent stands around with his hands in his pockets as the president goes to work is good copy. Here H. D. Watts, supt. of Oliver Tire & Rubber Company's Mechanical Rubber Goods Division, Oakland, watches Pres. G. F. Oliver feeding ingredients to mixer, just installed.

K. R. Stoney, San Francisco, named eastern foreign freight agent with headquarters in Chicago for the Western Pacific Railroad where he will handle export and import traffic moving to and from the Colorado Rockies and Atlantic seaboard, much of which will originate through San Francisco Bay ports. . . .

Charles A. Brown, S. F. social security and workmen's compensation authority, named director of Social Security dept. California State C. of C. . . . **Richard Andrew Colgan, Jr.,** prod. mgr. Diamond Match Co. operations, Chico, appointed exec. vice-pres. National Lumber Mfrs. Assn.

D. C. Wilkens, Jr., is chief of industrial relations for San Diego division of Consolidated Vultee Aircraft Corp., succeeding **W. G. Tuttle,** resigned. . . . **Irving F. Lyons,** traffic manager of California Packing Corp., elected chairman of exec. committee National Industrial Traffic League.

Henry E. Guerin, executive and inventor, Douglas Aircraft Co., Inc., Santa Monica, retires Jan. 1, after 25 years service.

Wm. R. Bennett quits as plant mgr. and director of operations at Oakland plant of Hazel-Atlas Glass Co. to join Latchford-Marble Glass Co., Los Angeles, as vice-pres. in charge of operations. . . . **Edgar Kaiser,** son of Henry J., boosted to member and vice-chairman of board of Kaiser-Frazer Corp. . . .

Dr. Arthur Gardiner Coons now in Japan as economic adviser and aide to **Edwin W. Pauley,** reparations commissioner for U.S., elected president of Occidental College, succeeding **Dr. Remsen D. Bird** who retires next June.

LaMotte T. Cohu, gen mgr. and chairman of board, Northrop Aircraft, Inc., Inglewood, elected president of Aircraft Industries Association of America; **Robert E. Gross,** pres. Lockheed Aircraft Corp., Burbank, elected v.p.; **William M. Allen,** pres., Boeing Aircraft Co., Seattle, member of executive committee; **J. H. Kindelberg,** pres., North American Aviation, Inc.; **T. Claude Ryan,** pres. Ryan Aeronautical Co., and **Harry Woodhead,** pres., Consolidated Vultee Aircraft Corp., members of the board.

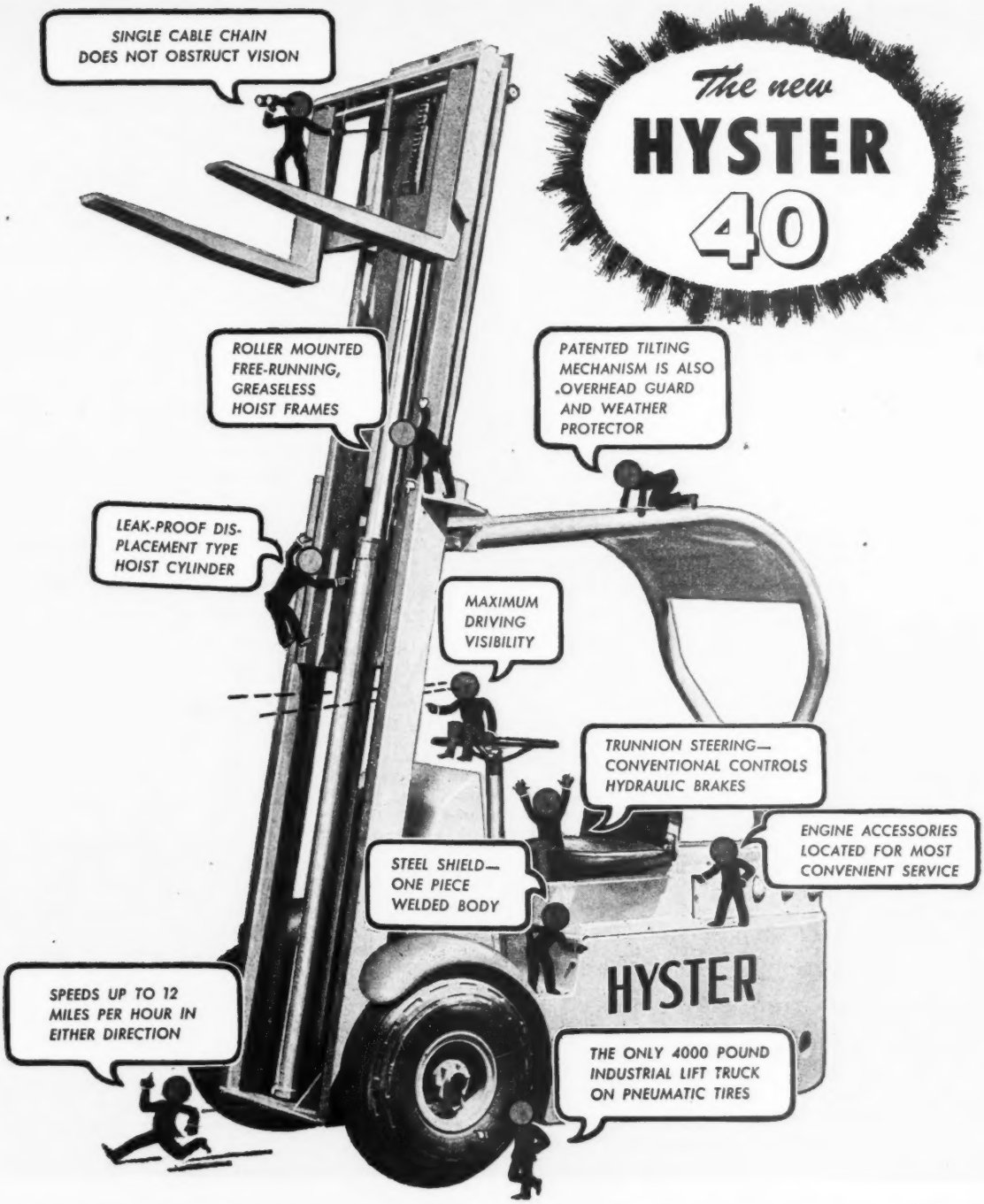
L. R. Campiglia, pres. of California and Hawaiian Sugar Refining Corp., San Francisco, elected California director of NAM.

Colorado

Harry A. Zinn, 1450 Meade Street, Denver, is U. S. Collector of Customs for Colorado and Wyoming with headquarters in Denver. . . . **Col. C. T. O'Neill** replaces **Lt. Col. Jesse E. Marshall** as head of the Sixth District of the Seventh Service Command which comprises Colorado and Wyoming. . . .

Col. William Paul Wilson, Denver, doffs Army togs to resume position with Colorado & Southern Railroad—he was formerly division supt. . . .

(Continued on page 52)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WESTERNERS AT WORK...

(Continued from page 50)

Dr. H. D. Tyner

Dr. Howard D. Tyner is director of newly formed Rocky Mountain Institute for Industrial Research. Tyner, both a physicist and chemist, heads up research with object of transforming Rocky Mountain Region's abundant natural resources into materials for industry. Offices of Institute will be Palmer Hall, Colorado College, Colorado Springs. . . .

Brig. Gen. Charles S. Shadle succeeds **Col. O. A. Eastwold** as head of Rocky Mountain arsenal, Denver. . . . **J. J. Zorichak,** technologist for war petroleum admr. Denver, is field engineer for oil operators at Rangely. . . . **Richard H. Mote,** acting supv. engineer of Denver office of metal economics division U. S. Bureau of Mines, promoted to acting chief economist of lead and zinc production division of bureau in Washington. He is succeeded by **George E. Woodward,** Denverite, and grad. of Colorado School of Mines, and supv. engineer of Salt Lake City office of metal economics. . . .

Silas G. Pierson, veteran of C F & I Corp., Denver, made first director emeritus in firm's history, to serve for life. "Si" has had 55 years of service with the company.

Idaho

V. R. Newbury, Box 232, Silverton, supt. and gen. mgr. of Vindicator Mine two miles east of Mullan, now being reopened by **W. J. Logus** and associates, Seattle, Wash. . . . **Charles R. Garrett, Jr.,** succeeds **S. K. Garrett** as mgr. of Constitution Mine of Spokane-Idaho Mining Co., Kellogg. . . .

Col. Ralph A. Tudor, district Army engineer, Portland, joins Morrison-Knudsen Company, Boise, when he's out of the Army Jan. 1, in an important position. . . . **Charles Eder,** mgr. Van Petten Lumber Company, New Plymouth, 31 years, resigns. Succeeded by **S. S. Kensel,** Seattle. . .

Compton I. White, Jr., now mgr. of Whitedelf Mining Co. at Clark Fork, replacing **Frank H. Mitchell** who switched to manage property of Highland-Surprise Consolidated Mining Co. in Pine Creek district near Wallace. . . .

Montana

After 30 years' service in Flathead natl. forest, Kalispell, **Adrian C. Adams,** administrative asst. has retired from **U. S.** Forest Service.

Nevada

Perry N. Taylor is mine supt. of Blue Diamond Corp.'s gypsum producing mine at Blue Diamond; has operated mines in Arizona, Calif., and Alaska. . . .

• How to make money though mining is what H. G. Washburn, gen. mgr. of Federal Mining & Smelting Co., Wallace, Ida.; Donald A. Callahan, pres. Callahan Consol. Mines Co., Kellogg, Ida., and v.p. American Mining Congress; Howard I. Young, pres. of congress and American Zinc, Lead & Smelting Co., St. Louis, Mo.; and Guy N. Bjorge, g.m. Homestake Mining Co., S.D., are discussing. They decided it would take at least four heads to find an answer to rising labor costs, decreasing labor efficiency and insufficient spread between costs and bullion returns at present.

Paul L. Jones becomes engineer for U. S. Lime Products Corp. at Sloan; was at Montezuma, Colo., where he managed the 50-ton Plymouth custom mill . . . **George H. Wigton** resigns as mill superintendent at Getchell Mine to resume position as metallurgist and supt. for Dayton Consolidated Mining Co., Silver City. **Frank J. DelMel** succeeds Wigton. . . .

New Mexico

Col. Kelly H. Lewis assumes duties as commanding officer of Navajo Ordnance Depot, Albuquerque, replacing **Col. John Huling, Jr.** . . . **Ray J. Holmquist,** formerly mining engineer for U. S. Bureau of Mines, Silver City, now supt. of Burro Chief fluorspar mine, Tyrone. . . .

Oregon

A. R. Nieman, asst. gen. mgr. of Kaiser company's Swan Island Shipyard, transferred to special studies for Kaiser Co. Succeeded by **Albert Bauer,** asst. gen. mgr. of Oregon Shipbuilding Corp., who will take charge of Swan Island.

Paul Hirsh, deputy regional director at Portland for WPB, previously district manager Sperry Flour Company, becomes v.p. of Ritter, Lowe & Co., business property investments. . . . **Robert B. Elliott,** former WPB head of office of civilian requirements for Oregon and southern Wash. named chief of Bonneville power administration's utilization section. . . .

Utah

Frank J. Fister, formerly personnel mgr. Geneva Steel plant, now manager of Ogden branch of American Paper & Supply Co. He succeeds **K. N. Burton.** . . . **A. Alan Post,** economist for division of financial affairs, U. S. State Dept., named research director of Utah Foundation, 32 Exchange Place, Salt Lake City. . . .

Dr. W. L. Roth, Salt Lake chemist, recently appointed to General Electric Company laboratory staff. . . . **D. D. Moffat,** pres. and gen. mgr. of Utah Copper Co., named director of American Institute of Mining and Metallurgical Engineers. . . .

Edwin L. Ames upped to vice pres. and sec. of Salt Lake Glass and Paint Co. He managed glass department, Bennett Glass and Paint Co. since 1939. . . . **Dr. Claude E. Needham,** Washington, D. C., comes to Salt Lake as new supervisor of Salt Lake City office, bureau of mines, and will coordinate work done at Denver, San Francisco, and Joplin, Mo., offices. Has edited bureau's Minerals Year Book since 1942.

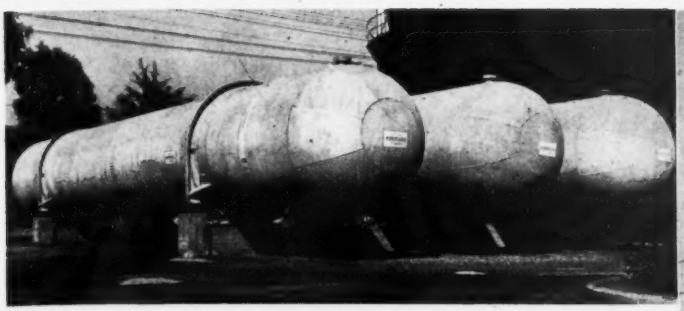
Recent appointments to Utah's new state minimum wage board for retail trade industry are: **E. M. Royle,** chairman of State Industrial Commission; **C. E. Herrick,** Salt Lake; **John Seaman,** Ogden, and **John A. Anderson,** Helper, representing employers; and **Addis Thomas,** Ogden; **Leah Haislip,** Helper, and **Doris Gilligan,** Salt Lake, representing employes.

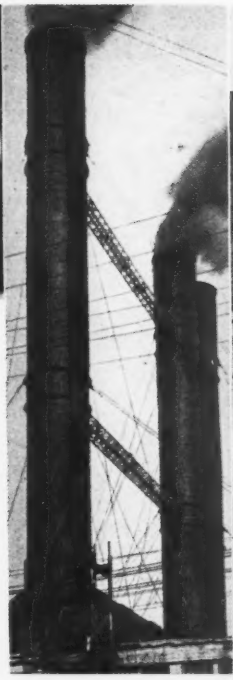
Washington

Andre Baudat new mgr. of manufacturing operations at Sweden Freezer Mfg. Co., Seattle; formerly supv. of equip. engineering at Boeing Aircraft Co. of Canada. . . .

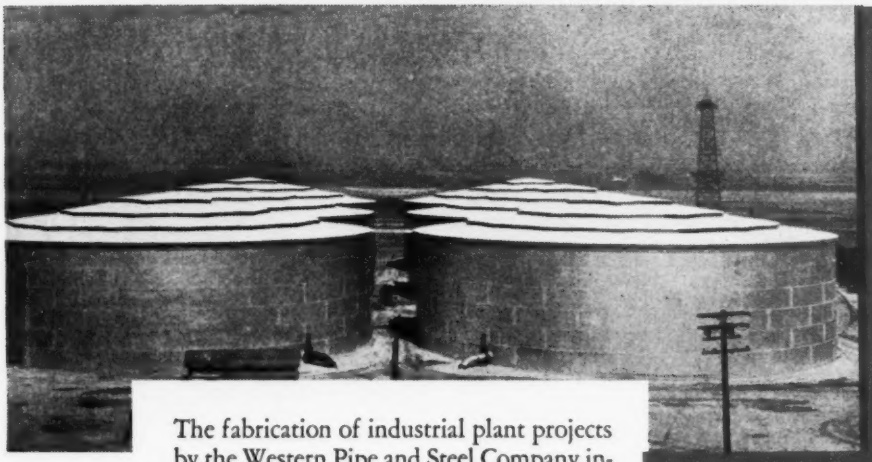
George A. Pershall, district mgr. in Spokane for Smaller War Plants Corp. has resigned. . . . **Brodie W. Hodges,** 39½ yrs. with General Mills and Sperry Flour Co., has retired as v.p. of Sperry division of General Mills. **C. E. Robinson** succeeds him.

(Continued on page 54)





FROM SMOKESTACKS AND BOILERS TO COMPLETE PLANTS



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WESTERNERS AT WORK...

(Continued from page 52)

Charles A. Ulsh

D. C. Wilkens, Jr.

Charles A. Ulsh, returned Navy Lt., assumes new duties as gen. supt. of tooling department, Boeing Aircraft Co., Seattle. Ulsh was attached to the Wasp as engine division officer for two years.

Andy Schmitz, Accident Prevention Bureau supervisor, Pacific Northwest, goes to U. S. Compensation Com. as area safety consultant for Pacific Coast states. . . . Succeeded by **George L. Cook,** Long Beach, asst. supv. in Los Angeles district.

Maj. Burton A. Hall back from four years duty with Army Air Corps named mgr. Pacific Power and Light Co. office at Grandview. . . . Acme Door Co., Hoquiam, reorganization line up: **M. W. Brachvogel,** Aberdeen, pres.; **W. H. Abel,** Montesano; **Victor Borden,** Moclips; **Ed Lundgren** and **Harry Knox,** both of Hoquiam, members of board of directors. . . .

Denzie Hailey, Seattle, was alternate repr. for industry at Labor-Management Conference in Washington. . . .

Wyoming

Clifford P. Hansen, Jackson rancher, named Wyoming representative on Western States' Public Lands Committee.

Associations elect:

California Metal Trades Association: Pres. **L. W. Delhi,** vice pres. in charge of operations, Western Pipe & Steel Co.; v.p. **A. E. McIntyre,** gen. mgr. Merco Nordstrom Co., Oakland; treas., **George F. Bont,** California Steel Products Co., Richmond. . . .

Directors: **D. E. Golden,** g.m. Schlage Lock Co.; **Russell Gowans,** pres. Western Crown Cork & Seal Corp.; **J. E. Holland,** Montague Pipe & Steel Co.; **Serge Kovaleff,** Enterprise Engine & Foundry Co., all of San Francisco; **J. Kuttler,** v.p. Trailmobile Co., Berkeley; **Charles E. Moore,** pres., Joshua Hendy Iron Works, Sunnyvale; **P. A. Hoyt,** exec. v.p., Oliver United Filters, Inc., Oakland; **George H. Raitt,** pres. Steel Tank & Pipe Co., Berkeley; **Wesley Plunkett,** v.p., Friden Calculating Machine Co., San Leandro; **G. F. Twist,** v.p., Atlas Imperial Diesel Engine Co., Oakland.

Pacific Northwest Personnel Management Assn. officers: Pres., **Harold Gowing,** personnel director, Iron Fireman Co., Portland; **Elmer Williams,** Fred Meyer, Inc., Portland, Oregon, vice pres.; **Clarence W. Sherman,** Puget Sound Power & Light Co., Seattle, Western Washington v.p.; **Clara G. Rubins,** Seattle Civil Service Commission, sec-treas.

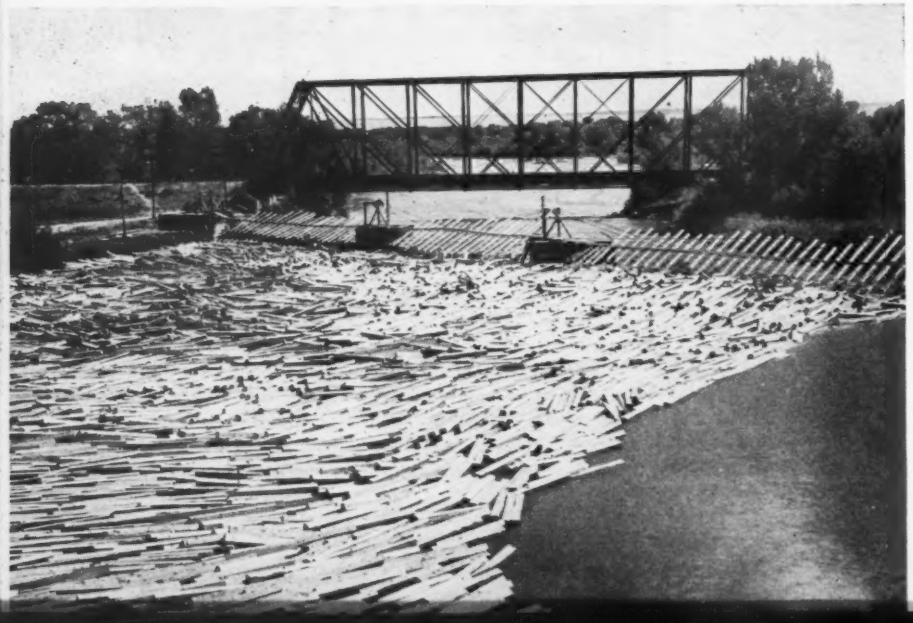
Charles C. Teague retains post as pres. of California Fruit Growers Exchange for 26th time when annual meeting held. Other officers: vice-pres., **Harvey A. Lynn,** Riverside, **LeRoy E. Lyon,** Orange, and **J. A. Moffett,** Lemon Grove. **W. E. Sprott,** Porterville, continues as hon. vice-pres. . . .

Industrial Relations Council, 143 S. Main St., Salt Lake: Pres. and mgr., **L. B. Hampton;** v.p., **W. J. O'Connor;** treas., **F. S. Walden;** sec., **William K. Keller.** Hampton, O'Connor, Walden, **Joseph Rosenblatt,** all of Salt Lake, and **J. Fletcher Scowcroft,** Ogden, named directors. . . .

Society of Economic Paleontologists and Mineralogists: Pres. **Frenk Dreyer,** Union Oil Co., and sec.-treas., **Howard Anderson,** Standard Oil Co.

Pacific Coast section, American Assn. of Petroleum Geologists new officers: Pres. **E. R. Atwill,** Union Oil Co.; v.p., **Vincent Vandiver,** Seaboard Oil Co.; and **A. S. Holston,** Tide Water Associated Oil Co., sec.-treas. . . .

• 150,000 giant jackstraws, better known as railroad cross-ties, cut from lodgepole pine in the Shoshone National Forest, floated 100 miles down the Wind River to Riverton, Wyoming. There aren't any "Westerners at Work" in this picture, but we are reliably informed that several important industrialists had a flat tire just beyond the bridge and so were unable to be represented. Picture from United States Forest Service.



New Aircraft Association Set-Up

The western region office of Aircraft Industries Association, formerly the Aeronautical Chamber of Commerce, has been reorganized to assume immediately the functions formerly performed by the Aircraft War Production Council at Los Angeles.

John K. Boyle, assistant executive director of AIA at Washington and previously executive advisor to the vice-president and general manager of Lockheed, has been named western region manager, a post formerly held by James L. Straight.

A traffic department has been created, with W. G. O'Barr, former assistant traffic manager for North American, as staff assistant in charge of traffic service. Stewart J. Moulin, former assistant manager of the Pacific Coast office of the Aeronautical Chamber of Commerce and more recently a navy lieutenant, has been made staff assistant for research and statistics service. James H. Quick, formerly in the public relations department of North American, joins the AIA in the public relations department.

Other members of the staff are: Frank E. Ross, assistant to the manager, former director of information for Aircraft War Production Council; Harvey Stowers, assistant to the president, formerly with Lockheed and Studebaker; F. Tom Humphrey, western AIA representative of Hill Knowlton, national public relations council for AIA.

Your post war MACHINE TOOL and INDUSTRIAL EQUIPMENT needs can be solved

THIS SURPLUS EQUIPMENT is available through RFC

The first problem of reconversion facing private industry today is the problem of getting machines in motion as soon as possible.

The vast stock pile of government owned surplus tools of every description being released to industry can help you reconvert. It is the job of the Reconstruction Finance Corporation to dispose of this surplus property quickly and effectively. Toward that end we ask you to follow this simple 3 step procedure:

1. **Submit in writing your requirements for machine tools and industrial equipment to *us* now.**
2. **Send a typewritten list to your nearest R.F.C. Regional Office listed below.**
3. **Make your descriptions brief, one line if possible, clearly grouping various types of equipment you need.**

The supply of industrial equipment and machine tools is sufficient to meet most of the needs of industry . . . as this partial listing indicates. Our job is to get these tools in your hands as speedily and easily as possible. The 31 strategically located offices below are ready to help you reconvert.

A CHECK LIST OF SURPLUS INDUSTRIAL EQUIPMENT

AVAILABLE THROUGH RFC

Check the types of equipment on which you desire further and continuing information. Mail to your nearest RFC office listed below. Your name will be placed on our regular mailing list.

MACHINE TOOLS

- ☐ Boring Mills
- ☐ Broaching Machines
- ☐ Turret Lathes
- ☐ Drilling Machines
- ☐ Gear Cutting and Finishing
- ☐ Grinding Machines
- ☐ Lathes
- ☐ Milling Machines
- ☐ Shapers and Slotters

INDUSTRIAL EQUIPMENT

- ☐ Hydraulic Presses
- ☐ Woodworking Machinery
- ☐ Electric Welding Equipment (Arc or Resistance Types)
- ☐ Heat Treating Furnaces
- ☐ Inspection Testing and Measuring
- ☐ Conveyors
- ☐ Gas Welding and Cutting Equipment
- ☐ Engine Driven Generator Sets
- ☐ Process Control Recording Instruments
- ☐ Electrical Switch Gear
- ☐ Miscellaneous Metal Working Machinery

The following surplus equipment is also available in various makes and *LARGE QUANTITIES* . . .

- ☐ **Ball and Roller Bearings**
- ☐ **Abrasives, Basic Products (Grinding Wheels)**
- ☐ **Cutting Tools for Machine Tools (Drills, Reamers, Milling Cutters)**

NAME.....

TITLE.....

COMPANY.....

ADDRESS.....

We want to make it easy to do business with RFC. If you desire, credit terms can be arranged. If your local office does not have all the equipment you need, they will endeavor to locate it from other offices throughout the country.

RECONSTRUCTION FINANCE CORPORATION

A Disposal Agency Designated by the Surplus Property Administration

Agencies located at: Atlanta • Birmingham • Boston • Charlotte • Chicago • Cleveland • Dallas • Denver Detroit • Helena • Houston • Jacksonville • Kansas City, Mo. • Little Rock • Los Angeles • Louisville Minneapolis • Nashville • New Orleans • New York • Oklahoma City • Omaha • Philadelphia Portland, Ore. • Richmond • St. Louis • Salt Lake City • San Antonio • San Francisco • Seattle • Spokane

130-T

REGIONAL REVIEWS

SIERRAS TO THE SEA

SAN FRANCISCO—Central California's largest single manufacturing industry before the war was the canning of fruits and vegetables and the fact that canning machinery manufacturers are not only sold out for 1946 but have orders clear up into the 1947 season indicate even greater activity than at any time in the past. Usually most of such machinery has been sold and manufactured in the same calendar year that it was to be used.

The total canned fruit and vegetable pack in California rose from 36,516,000 cases in 1940 to 58,218,000 cases in 1944, an increase of 62 per cent. A large part of this expansion was in the form of canned tomatoes and tomato products, as the tonnage of canning tomatoes increased from 550.000 tons in 1940 to 956,000 tons in 1945.

Frozen foods also have shown a spectacular growth, from 11 million pounds in 1940 to 110 million in 1944 and probably 140 million in 1945.

Peach Promotion Campaign

Desultory efforts to merchandise peaches to the consumer have been made in the past, but now growers and packers have agreed to $1 a ton assessment each for a four-year period, to raise an $800,000 a year advertising fund.

As San Jose, Stockton and Sacramento are the principal canning centers, it is obvious that the continuous upward trend since 1940 into 1947 will aid materially in keeping these cities moving forward.

Fifty major manufacturing firms, many of them already having factories in the area, purchased 275 acres of unimproved property in the metropolitan Oakland area in 1946 and will build on them this year. These property purchases are evenly divided between the East Oakland area and the industrial districts to the north, which include the cities of Emeryville, Berkeley, Albany, and southern Richmond, reports Elmer Hammond, manager of the Oakland Chamber of Commerce industrial department.

These construction plans do not include Paraffine's $6½ million expansion and Marchand Calculating Machine's $1½ million modernization. Among the largest projects are a $1,300,000 four-year program for Pacific Coast Aggregates; Sherwin-Williams Paint Co., $245,000; National Lead Company, $400,000; Colgate-Palmolive-Peet, $1,000,000.

The fact that so much of this development is new plants for old people is indicative of the steady growth and healthy condition of these established firms. In new small and medium sized enterprises, there were 99 concerns started in Oakland in 1942 and 1943, 170 in 1944 and 312 up to November in 1945.

Survey of Resources

A comprehensive industrial land-utility-resource survey of the entire metropolitan area of Alameda County has been completed. New basic maps have been prepared, and maps, charts and data cover the following major subjects:

Base map, zoning, topography, soil, tax rate, land use, population graph, government occupancy, industrial land use, natural resources, industrial site maps, railroads, trucking lines, deep water facilities, mass transit, highway system, air transportation, electric service, gas service, water service, sanitary system, sewer system, public facilities.

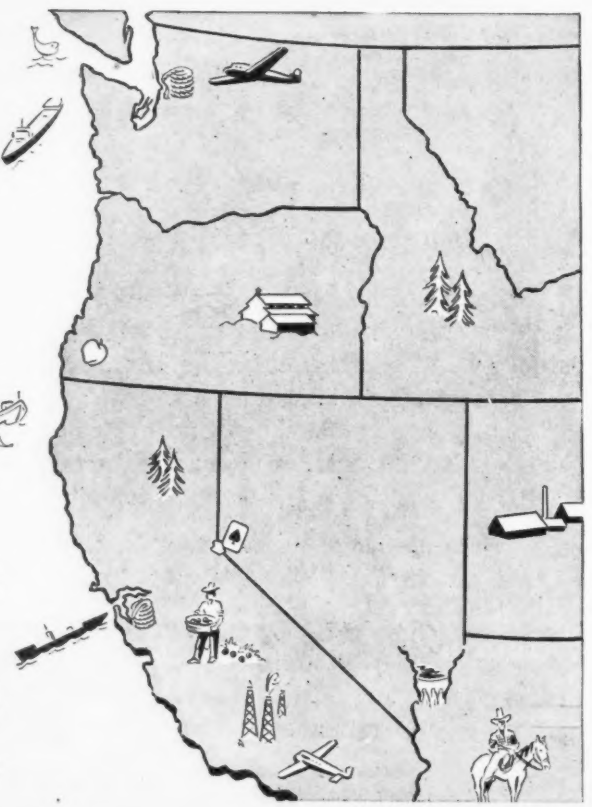
In contrast to the "industrial gap" type of study followed in some cities, where an attempt is made to indicate the potential local production that can be substituted for goods manufactured elsewhere in the country, the Oakland study is designed to show the existing facilities and activity. This leaves it to the initiative of the user of the

ROPE

For the *greater* West

For nearly a century, the mills of the Tubbs Cordage Company have kept pace with the growth and development of the West . . . supplying rope from the days of the pioneers to the past years when rope was so vitally needed by our armed forces.

Now—in the days of the greater West ahead—our mills will once more produce the quality products that has made the name Tubbs stand for the maximum in rope dependability and value.



TUBBS EXTRA SUPERIOR MANILA CORDAGE COMPANY

When the *finest* manila fiber is once more available you will again see this famous rope trademark.

TUBBS CORDAGE COMPANY

SAN FRANCISCO SEATTLE
LOS ANGELES CHICAGO PORTLAND NEW YORK

information to figure out how it can best be applied to his individual problem.

A recent report by the East Bay Municipal Utility District, made in connection with a population study as part of the survey of sanitary sewer requirements, estimates that the saturation population for the entire San Francisco Bay area will be reached about the year 2100, and probably will be about ten million persons, divided about equally between the eastern and western shores of the bay.

San Francisco Outdone

Current figures indicate a combined population total for Alameda and Contra Costa counties, on the mainland side of the bay, of 1,007,000, while San Francisco and San Mateo counties have 994,000. The latest count for San Francisco alone is 872,400.

Average weekly earnings in all manufacturing groups in the San Francisco-Oakland industrial area during October amounted to $48.41 compared to $45.61 in September and $59.40 in October last year. In the non-durable or consumer goods group average weekly earnings rose to $46.05 in October compared to $45.51 in September and $44.14 last October.

Average hourly earnings for October ranged from 91.8 cents in tobacco manufactures to $1.373 in the shipbuilding and repairing industry. Average hours worked per week for all industries amounted to 40.2 in October compared to 37.3 in September and 44.6 in October last year.

Industrial Needs Urgent

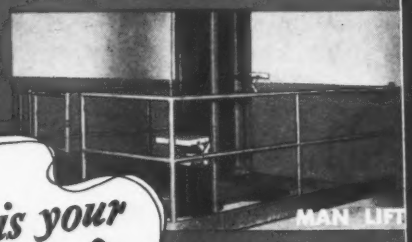
How to break the log jam of immediate space needs for industry is still pretty much of an unsolved problem in the San Francisco Bay area. Some warehouse space is beginning to be vacated by the armed services, but even a release of practically all they had would not supply the need in San Francisco alone for industrial buildings. Construction costs are so high that it is difficult to induce landlords to invest, because the returns may be so low that the investment will hardly pay out.

Early reports that the Army and Navy had vast quantities of building materials and supplies tied up in the various depots all over the country have simmered down somewhat, at least as far as this region is concerned. Much of it was not in usable condition, but the agitation has served to release a large enough amount to help in home building, which has been given priority over any industrial construction.

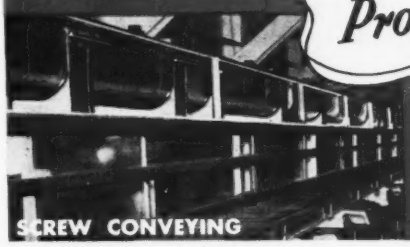
Merchandising Vision

One of the most radical innovations in merchandising since war's end—the selling of airplanes by a department store—has come into being in Denver, Colo. The J. C. Penney company has the agency for the Ercoupe, a two-place, gleaming, all-metal airplane. It is displayed on the second floor in Penney's Sky Ranch shop.

EVERY BUSINESS CAN AFFORD *efficiency*



What is your Problem?



Conveyco SYSTEMS

REDUCE COSTS...INCREASE PRODUCTION

EFFICIENCY in handling and processing materials is a basic necessity in manufacturing—it pays its way a hundred times over. That's why it's logical to eliminate old style lift-and-carry methods and replace them with new efficient Conveyco handling and processing systems. Whether you need a small screw conveyor or a complete new system it's logical to call the Conveyor Company where there is always a complete stock of all types of conveyor equipment and a large staff of experienced engineers. Make your plant more efficient, call JEfferson 6121 today!

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ENGINEERS • MANUFACTURERS

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CONVEYCO
EQUIPMENT FOR:
• VEGETABLE PACKING
• CONSTRUCTION
• CONVEYING
• OIL FIELDS

REGIONAL REVIEWS

TEHACHEPI TO TIJUANA

LOS ANGELES—Like a soldier just back from the Army, Southern California was ready to don civilian garb, but found its old clothing no longer would fit.

Fighting a war had toughened its sinews, and expanded its chest-line. Its housing was bursting at the seams, its outgrown schools, hospitals, and civic facilities were pinching, its stores and office buildings were run down and needing enlargement, and its baby civilian industries were out at the toes and clamoring for room to grow.

A four-alarm shortage of building materials brought a lusty cry for Federal action. The Red Cross helped finance emergency remodeling of barracks as the situation was given "disaster" status.

Some blamed it all on (1) OPA rent ceilings, (2) a landlords' "strike," or (3) military hoarding of materials. Cooler heads realized, however, that a decade's population growth had been telescoped into four years, during which there had been little new construction, and that a temporary panic was inevitable until more lumber could be cut, more bricks baked, more nails stamped out.

The infant civilian industries seemed to have the best of it, with lumber short but cement and reinforcing steel plentiful. An Army mess hall was remodeled to become an electronics factory. New stores and factories, most of which have been in blueprint for months, were getting under way. The larger contractors, with well-established connections with suppliers, were in better shape than the average home-builder and were ready when the starting gun was fired.

New Plants—New Jobs

New plants mean new jobs, and even the CIO, for a time, let AFL builders continue at work on enlargement of a General Motors assembly plant.

During the war, more than 30 large Eastern companies had purchased sites for new plants in Los Angeles but awaited peace to start building. Now the roll of West Coast branches continues to grow. Recent newcomers with plans running into the $1,000,000-plus class, include Ball Brothers and Hazel-Atlas Glass, both nationally known makers of glass containers; Ohio Rubber Company, manufacturing step plates, floor mats, and other automobile parts; and General Electric, whose new Anaheim plant will produce resins for paints and plastics.

One of those who feel that the West Coast will eventually produce a very large part of the manufactured products it consumes is Verne Orr, Chrysler executive, who predicted that 88 per cent of the postwar cars sold here will be made locally. In the same vein was the cautious forecast by a Rubber Reserve Corporation official recently, to the effect that Western synthetic rubber plants can meet all Western requirements, in direct competition with Eastern imports. Subsequent closing of all Government-owned alcohol-rubber plants throughout the country has lent heavy emphasis to his remarks.

While the 55,000-ton order received at Kaiser's Fontana mill for semi-finished steel products for the industrial rehabilitation of France has given a foretaste of new heavy-industry exports from Western harbors, another kind of "export" is being built up by such activities as a ten-day promotion presented in Boston by Filene's department store, leading to sale of more than a half-million dollars' worth of goods bearing the "Made in California" trademark. Visitors saw large pictures of California scenes, supplied by the Los Angeles Chamber of Commerce. Children got free glasses of frosted orange juice. Filene's salespeople wore California sportswear.

YOU CREATE A NEED
we fill it

Knowledge of industrial rubber, acquired by Pioneer Rubber Mills during more than a half century of operation, enables us to suggest the solution to any rubber problem arising in your plant and to supply rubber belting, hose and packing designed especially to fulfill your needs.

Through this Pioneer service you can avoid the makeshifts often necessary when you are forced to choose from stocks of ordinary rubber products.

1362

PIONEER
Job Tailored BELTING · HOSE · PACKING
PIONEER RUBBER MILLS
353 SACRAMENTO ST., SAN FRANCISCO, 11
Branches in: LOS ANGELES · PORTLAND · TACOMA · SEATTLE
SALT LAKE CITY · DENVER · CHICAGO and ST. LOUIS

The store's restaurant served California food, and one side of the menus was printed in Spanish. Worth more than the impressive sales total, however, was the exploitation of the "Made in California" label.

Following up, Chamber representatives are being sent throughout the country to study markets for Western products and promote new outlets for local manufacturers.

San Diego Jitters

Suffering from a lively case of reconversion jitters, San Diego, which recently was rated as one of the 12 U. S. areas with "a large volume of unemployment," is staging a civic campaign for "More Jobs for San Diegans." The thousands of war workers who returned home to the East have been offset by returning servicemen and by many who had merely gone back for a visit. Part of the problem is to create jobs, part of it is to persuade people to take them.

Throughout Southern California, both labor and management have been undergoing a period of let-down and relaxation. Workers, backed by comfortable savings and fagged by long wartime hours, have been choosy about new connections. Employers, fed up with turnover problems and in no hurry to build up payrolls, have been increasingly selective in their hiring. As a result, though employment continued to rise from week to week, it still was nearly 10 per cent below the rate of a year ago.

At the same time, the number of people drawing unemployment insurance stood at a peak of 81,500, as compared with 45,000 in September, 14,000 on V-J Day. The big surge of applications has passed, however. More than 42 per cent of those who had filed claims have since dropped out as result of securing new jobs, retiring from the labor market, or becoming disqualified from receiving further payments.

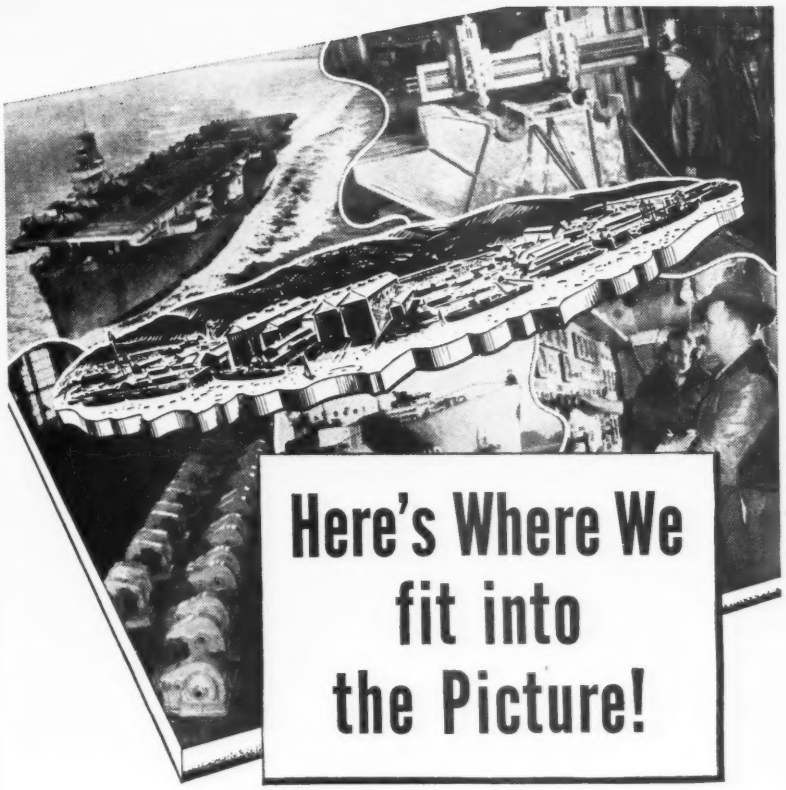
Aircraft Down

Another landmark: Modification of Army transports, plus production of new peacetime models, were keeping major aircraft plants busy. Some even were advertising for a few thousand workers; but reconversion of hundreds of erstwhile subcontracting plants has caused aircraft to drop, —for the first time since 1941—into fifth place among manufacturing industries needing new employees. Taking the lead were food processing and those old peacetime standbys, wholesale, retail, and service trades.

Several wholesome new tendencies have been making themselves felt with increasing strength:

(1) USES reports lessened "sales resistance" from job applicants, who seem to give suggested openings far more earnest consideration than has been the rule.

(Continued on page 60)



Here's Where We fit into the Picture!

TO THOSE FIRMS interested in representation in the Pacific Northwest, Alaska, Asia and countries beyond the Pacific, Commercial Iron Works has a comprehensive service to offer.

For almost three decades CIW's Know-How has become a by-word in this area. Today we have these facilities to offer: A complete staff of designers and engineers; unparalleled construction facilities; an efficient assembly and installation organization; a growing sales and service department!

The Story of CIW's Know-How And What It Can Do For You . . . is told in this 48-page book. A note on your company letterhead will bring it to you by return mail so you may see for yourself where we fit into your picture!

COMMERCIAL IRON WORKS

PORTLAND, OREGON

Contractors, Fabricators, Engineers, Machinists, Founders, Shipbuilding, Marine Repairs, Drydocking

(Continued from page 59)

(2) Many people who left this area in disgust at difficult, crowded living conditions, have gone back home, only to find fewer opportunities than in the bustling West. Now they are returning with the determination to stay and succeed.

(3) Out of the Army and Navy separation centers have been streaming thousands of young men who take very seriously their re-entry into American peacetime life. The majority of them, far from wanting to "loaf" for a while, look forward with enthusiasm to a new job. Typically, they seem to know rather definitely what sort of work they want to do—perhaps because they want to cash in on specialized training received in the armed forces, or perhaps because they have puzzled it all out through many a long hour of battle-front tedium and waiting.

The Future Counts

If they take time to look around, which is frequently the case, they are doing it seriously and are more interested in weighing future chances for advancement than in finding a high-pay sinecure. Personnel men generally express gratification at the high type of applicant wearing the gold eagle discharge emblem. As one put it, "After all, this is the cream of the crop—our best young American manhood. I don't know where you'd look for better material."

Incidentally, veteran placements by USES increased 77 per cent in October. One out of every four persons placed was a veteran.

Smaller War Plants Corporation offices have been swamped with uniformed applicants seeking the veteran's preference in buying Government surplus goods. Most sought are passenger cars and trucks, but other equipment needed in setting up a new business or holding a new job is requested in infinite variety.

Trucking, retail trade, and building contracting figure prominently in these projected business ventures. Reflecting GI lack of large capital, relatively few veterans seem inclined to enter manufacturing, but SWPC officials see in this fact a healthy tendency toward return to the normal pattern of industry, with distributive and service industries representing by far the greater amount of employment.

Safety Record Better

Only 10.39 "lost time" accidents for each million hours worked were recorded in 1944, as compared with 25.50 in 1917, according to F. W. Curtis, superintendent of safety and fire prevention for the Denver & Rio Grande Railroad. The figures represent improvement in the safety of operations.

New Policies On Personnel

Southern California Firms Report Extensive Changes Result From War Experience

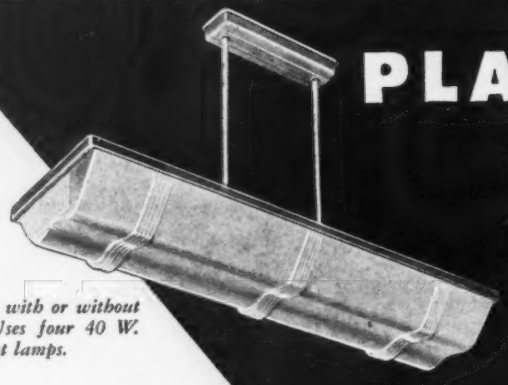
EXTENSIVE changes in personnel policy and procedure have been made in Western industrial and commercial establishments as a result of experiences during the war years.

Indications of the extent of these changes are contained in the results of a survey conducted during the two months following V-J Day in a substantial segment of the business and industry of Los Angeles.

According to the survey, carried out by the Industrial Relations Research Department of the Merchants and Manufacturers Association, and to which 53 establishments responded, 16 specific personnel practices have been mentioned by over 50 per cent of the responding firms as likely to be adopted permanently.

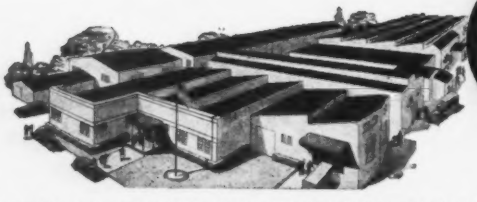
The survey shows that tests for aptitude, intelligence, vocation and personality will be used in the postwar period by an average of more than 100 per cent of the firms using them prior to V-J Day.

PLASCOLIER



A new shielded luminaire that is now in production by Smoot-Holman. Extremely efficient, combining minimum surface brightness, maximum diffusion, low absorption. Lightweight plastic diffuser is safe to handle, no breakage hazards. Write for Catalog Supplement No. 22.

Available with or without hanger. Uses four 40 W. fluorescent lamps.



SMOOT-HOLMAN COMPANY
SMOOT-HOLMAN
INGLEWOOD, CALIFORNIA
MADE IN U.S.A.

OFFICES IN PRINCIPAL WESTERN CITIES • BRANCH AND WAREHOUSE IN SAN FRANCISCO

Only six personnel policies were shown by the survey to have a use in the postwar period by a smaller number of firms than employed them before the surrender of Japan.

POSTWAR PERSONNEL POLICIES
To be Followed by a Majority of the 53 Firms Surveyed

Personnel Policy	*Number of firms that will continue or start*
Job Description	44
Group Insurance	43
Job Evaluation	42
Hire Interviewing	41
Transfer and Upgrading	40
On-Job Training	38
Local Advertising (to secure employees)	37
Safety Program	36
Life Insurance	36
Hiring Investigation	35
Pre-Termination Interviewing	35
Employee Handbooks	34
House Publications	32

WARTIME PERSONNEL POLICIES
Showing Above-Average Gains

Policies	*Number of Firms Using Before V-J Day*	*After V-J Day*	*Pctg. of Increase in Postwar Use*
Aptitude Tests	7	17	142.9%
Intelligence Tests	8	18	125.0
Vocational Tests	7	14	100.0
Personality Tests	7	13	85.7
Progress Report	16	23	43.8
Employee Handbook	26	34	30.8
Counseling	24	30	25.0
Adjustment Interviews	20	25	25.0

WARTIME PERSONNEL POLICIES
SHOWING LOSS

Policies	*Number of Firms Using Before V-J Day*	*After V-J Day*	*Percentage Decrease in Postwar Use*
Out-of-town Recruitment	9	4	55.6%
Out-of-town Advertising	6	2	40.0
Visiting Nurses	10	7	30.0
General Education Courses	10	8	20.0
Full-time Doctors	8	7	12.5
Safety Contests	22	20	9.1

Northwest Building Gains

The Pacific Northwest's greatest total building volume of the year—$8,747,067 in September—is reported by 36 cities. The 1945 high is 187 per cent over September, 1944; 44 per cent over the preceding month. More than 60 per cent of the total is for industrial building, and Seattle, Wash., and Portland, Ore., reported more than three million dollars in building permits in the month. Twenty-six out of the 36 cities tabulated made more than 100 per cent gains.

Airport Truck Service

A special department to carry air freight to and from airports has been set up by the California Cartage Company of Los Angeles, according to an announcement of the company.

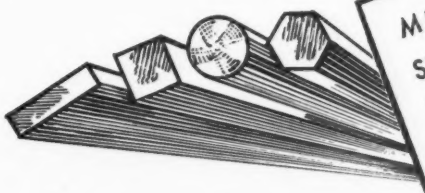
COLD DRAWN STEEL BARS

In all Grades & Shapes

WESTLAND CAN GIVE IMMEDIATE ATTENTION TO YOUR COLD DRAWN STEEL REQUIREMENTS

Now that wartime priorities and restrictions have been drastically curtailed on Westland's cold drawn steel production you can get immediate attention and, in some cases, immediate delivery of your order. • Cold drawn bars from Westland's mill are the finest. The most accurate and modern equipment is used to check and recheck for quality and accuracy before release. Less than carload quantities can be obtained from leading warehouses on the Pacific Coast. • *Contact the Westland representative nearest you for immediate attention and our new booklet, "Standard Classifications of Extras."*

MILL REPRESENTATIVES IN SEATTLE • SAN FRANCISCO • PORTLAND • LOS ANGELES • ...DEALERS EVERYWHERE



Westland Drawn Steel Co.

2451 EAST 23rd STREET • PHONE KIMBALL 1211 • LOS ANGELES 11, CALIFORNIA

SAN FRANCISCO 5 MONADNOCK BLDG. GARFIELD 2772

PORTLAND 4 815 S.W. FRONT ST. ATWATER 1466

SEATTLE 4 427 SMITH TOWER MAIN 5894

THE WEST'S *Only* COLD DRAWN STEEL BAR MILL

REGIONAL REVIEWS

OLYMPICS TO THE COEUR D'ALENES

SEATTLE—As we rush through the day's events—at each hour trying to take care of those things which seem most important—we sometimes mix our sayings and our meanings! This is probably most true of *weather* and *climate*. We know that *weather* applies only to a particular time and place, whereas *climate* refers to the average condition of the weather in a general area. And yet we use the terms synonymously!

We say that man can't change the climate; when we really mean that he can't change today's weather. It is here already and the conditions which caused it have had their effect.

With further thought (usually *ex post facto*) we realize that man *can* affect climate and is doing so daily. He irrigates a previously arid area. He builds factories and fills the air with smoke. He builds a breakwater or dam—or changes the course of a river. And these all affect tomorrow's weather—and the climate of the years to come.

Metaphorically Speaking

The same conditions—and the same malexpressions—are applied to business "climate" as well as to atmospheric climate. We think of "climate" and say "weather," or vice versa, and confuse ourselves as well as our listeners. We wish that somebody would do something to improve the "weather" without actually expecting it to be done. And yet we go rushing ahead without consciously realizing the effect our actions will have on the "climate" of the future—that "climate" which is just as necessary to a successful industrial enterprise as the atmospheric variety is to the farm.

The weatherman (poor, misunderstood soul) admits that 24 hours is the top limit of reasonable accurate weather forecasts. But we plague him to forecast the weather for the coming years, when that is a function of the climatologist. And to help us, the latter must analyze thoroughly all the past and the present in order to forecast the future, and must integrate with the natural and known phenomena those things of man's doing today which will affect the climate of tomorrow.

And so we fret about the future business "weather," seeking an accurate forecast but probably again resorting to a prophetically rheumatic joint. At the same time we continue pouring out columns of "smoke"—and tomorrow we will complain about the "climate" getting worse—the dirt laden air and the increased cloudiness or rainfall.

Yes, a good or bad "climate" is largely of our own making! What we do today may permanently affect the "weather" of tomorrow—and the "climate" of the years to come. Conversely, by viewing today's developments in relation to the conditions of the past, we may be able to anticipate with some accuracy what the "climate" of the future may be.

Clouds on the Horizon

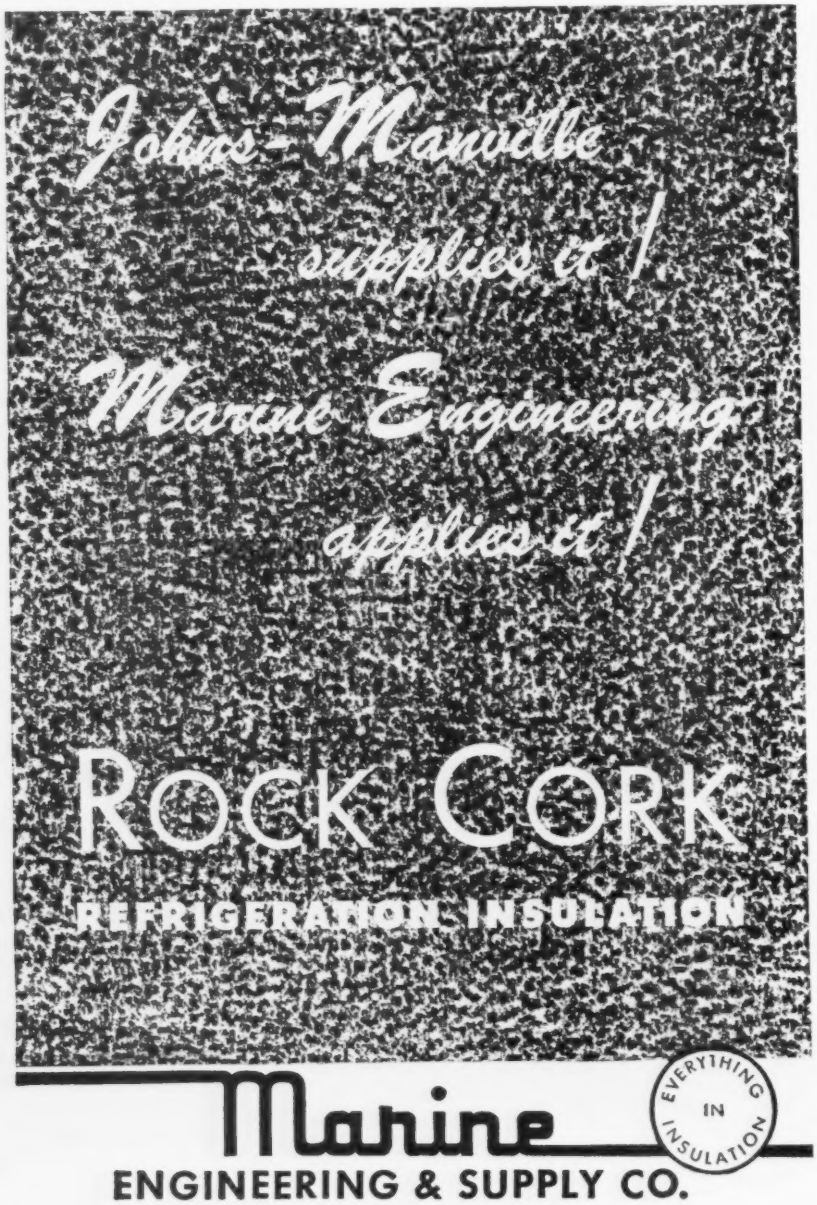
So, just what are those developments here in the State of Washington?

Some aren't good!

Work opportunities have dropped off as a result of combined circumstances difficult to control—termination of war production, end of fruit packing and logging seasons in some areas, shortage of housing where jobs are available.

At the same time, *lumber strike*—unnecessary, though expedient for some private interests—has imposed further restraints, made construction industry stumble at the starting blocks—and lack of building holds up plant expansion as well as housing in tight areas. But the tide is now coming in again!

In spite of increased unemployment, 15,000 job openings are still available.



They are hard to fill; because wages are less than wartime rates in other industries, shortage of housing, and special skills needed.

Strikes Apply Brakes

Threat of strikes in steel and machinery restrain all out expansion—both in direct and in related industries. Further slackening of job-making traces in dealers' lack of goods.

Impractical policy and misunderstanding in *price controls* are causing confusion and controversy. Need exists for regional decisions to carry out principles of fair control rather than "letter of the law!" Trends favor this possibility.

But the manufacturer can help OPA and himself. Price formulas are changed frequently—so periodic check is necessary. Some producers still complain about "raw deal" ten months ago, when current actual conditions are just what they wanted. Better check again!

Also, the manufacturer's hopes for national distribution "some day" have caused excessive delays—because all such applications go to Washington, D. C. Local or regional offices can handle applications for their respective markets—and the manufacturer can start production for them much sooner.

But Sunshine, Too!

Opportunities for expansion and need for certain *"missing links"* are being disclosed by the current Product Survey. In many cases response to these findings is immediate and effective—mainly made up of many small actions. But in aggregate they compose a progressive and beneficial force.

A few are typical!

CHEMICALS: Development hinges on good byproduct coke (12 per cent ash, 0.04 per cent phosphorous). War-built coke plant (75 thousand ton capacity) in Tacoma now in hands of R.F.C. Some beds of suitable coals known. More being analyzed. *Problems:* Who wants coke? How much? What price and specification? Who will operate the plant? And many more miners are needed!

Suitable limestone being imported from Alaska—but may become available here. With coke, expanded requirements for acetylene can be filled. Synthetic resins can be made for adhesives and plastics—molded, laminated, and fabricated. Good fillers available. Relatively small market for plastic materials on West Coast—NOW—but foreign market shows big prospects.

Also, rayon can be produced here instead of shipping pulp East. And foreign markets previously filled by Germany and Japan (several times greater than U. S. domestic market) are wide open.

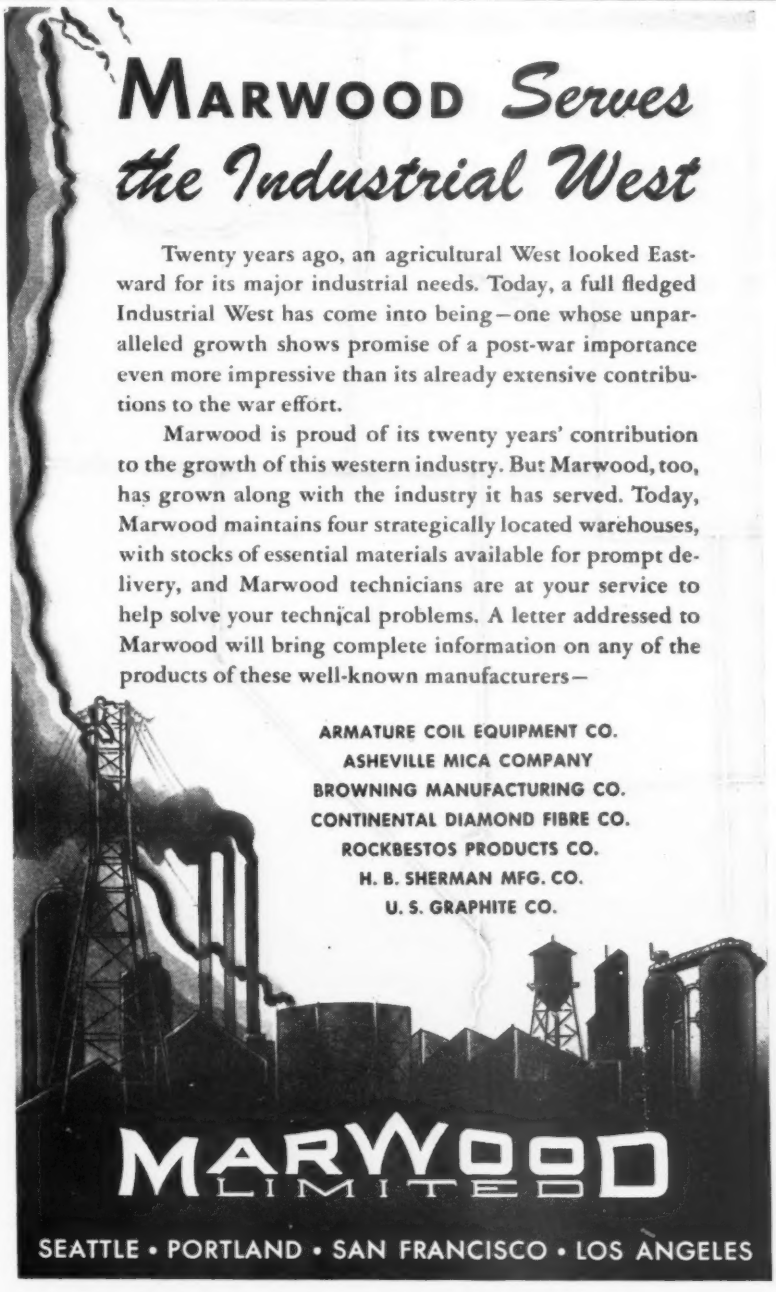
Many other lines in chemical industry also will be opened to development.

WOOD PRODUCTS: Improved resin adhesives — plus techniques developed during war—open *new industry* in wood fabrication. Scarfing for length, edge-gluing for wide boards, laminating for thickness—alone or combined—straight or preformed. Possibilities seem unlimited! And operating costs are competitive with good management. A serious challenge in some fields to steel, light metals, and plastics. Boat building and residential construction are big fields—wide open.

QUICK FROZEN FOODS—Washington already leader in volume and dollar value. Facilities expanding in number and size. More farm production needed to fill market demand. More frozen products—plus better merchandising and handling equipment—are on the way. And *cooking may be revolutionized* by use of aluminum foil!

ICE CREAM: The rising queen of dairy products—3 per cent of butterfat prewar, 6 per cent now, 10 to 12 per cent soon. More milk production needed. Ice cream becoming a staple rather than luxury.

AGRICULTURAL MACHINERY: Present industry can expand up to 15 times serving regional markets only. Opportunities for large and small organizations—but good management is a requisite for sustained success in future competitive field. Farmers want equipment to serve their regionally peculiar needs—and dealers encourage handling of local products—AT PRESENT!


MARWOOD Serves the Industrial West
Twenty years ago, an agricultural West looked Eastward for its major industrial needs. Today, a full fledged Industrial West has come into being—one whose unparalleled growth shows promise of a post-war importance even more impressive than its already extensive contributions to the war effort.
Marwood is proud of its twenty years' contribution to the growth of this western industry. But Marwood, too, has grown along with the industry it has served. Today, Marwood maintains four strategically located warehouses, with stocks of essential materials available for prompt delivery, and Marwood technicians are at your service to help solve your technical problems. A letter addressed to Marwood will bring complete information on any of the products of these well-known manufacturers—
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REGIONAL REVIEWS

THE COLUMBIA EMPIRE

PORTLAND—With the shipbuilding industry no longer a front page activity, the peacetime No. 1 activity in the Northwest—lumber—has come to the fore with a rush that is making the nation's headlines.

Four major steps toward perpetuating the industry and possibly enlarging it now have been completed and from them will follow a long series of important changes that leading foresters declare without reservation will keep their industry in No. 1 position.

Those initial actions are:

1. The first Oregon & California land grant administration hearing for setting up sustained yield logging units on 8 million acres of joint, private, and public forested lands in Western Oregon.

2. Appointment of a forestry department to put sustained yield into operation for some 4 billion board feet of merchantable public domain timber in Oregon, Washington, Montana, Idaho, and California.

3. Completion of the industry's survey of timber reserves and tree-growing capacity—which developed figures that knock into a cocked hat the gloomy predictions for "no more lumber" now being circulated among eastern lumber dealers by some of the industry's competition.

4. Formulation of plans by the U. S. Forest Service to start a series of hearings in about six months on proposed cooperative public-private, sustained yield units utilizing forest service timber which totals some 229 billion board feet at present.

In Final Stage

Scheduled to come out of Washington, D.C., and the general land office this winter are final drafts of contracts to be signed by private operators and the O. & C. administration for co-operative sustained yield cutting. The new contracts will incorporate ideas added to original plans aired at the initial public hearing in Eugene, Ore., in December.

Then will follow a series of hearings on each of the proposed 12 master units, each a cooperative area, extending from the Columbia River to the California line in the Western Oregon Douglas fir belt.

Each of the 12 master units will have a dozen or less smaller units for which separate public hearings will be held before contracts are signed with operators. Already some operators have prepared their lands for sustained yield to be ready for use of O. & C. timber when the contracts are ready.

Public Domain Timber

On the question of public domain timber: the appointment of R. J. Taylor, formerly conservationist for public domain lands in New Mexico and Arizona, as the first timber management forester for federal public domain timber has set a precedent far different than any heretofore seen in that phase of government ownership.

Until the war, public domain timber could not be sold unless dead or downed. During the war, limited amounts were sold for cutting through the San Francisco appraisal office. Under the new plan, operative under Public Law 273, this timber will become available to private operators during the coming years under co-operative sustained yield similar to the forest service plan.

The industry's survey of timber lands shows there are 438.1 billion board feet of merchantable timber standing in the states of Washington and Oregon alone. It does not include lands less than 40 per cent restocked or timber less than 16 inches in diameter at breast height measure.

The industry forecast, based on this new figure, is that production could be stepped up in the fir region from the present 8 billion board feet per year to 10 or 12 billion.

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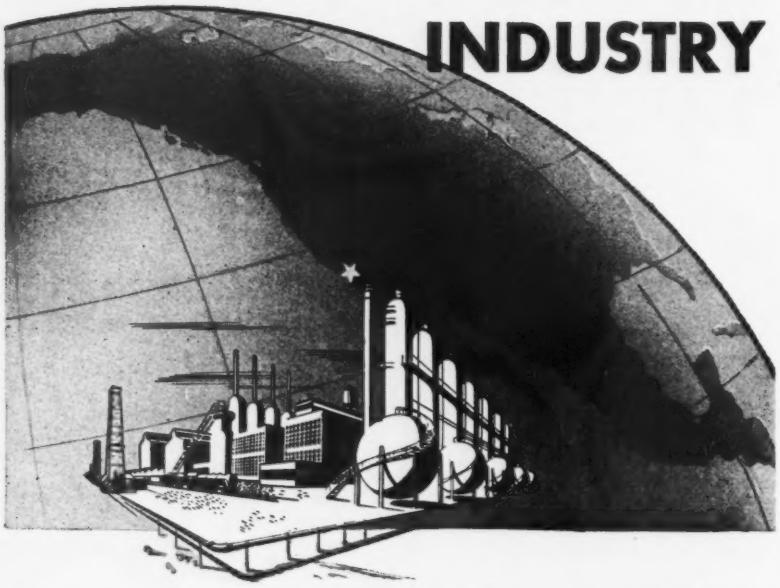

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THE HISTORY of A. R. Maas Chemical Co. is one of enterprise, stability and service. Year after year it has paced Western industry with improvement of method and facilities—developing uniformity and utility of product.

Today the A. R. Maas Company continues to search for better ways to serve all industry, so that—war or peace— its products will have the perfection that modern production methods demand.

We are proud of our Army-Navy "E" flag with its star—an honor awarded us "for continued outstanding production of war materials."

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"ARMed for Chemical Service"

This would necessarily include better utilization of timber in the woods and mills and release of federal timber at an approximate annual growth rate.

Shipbuilding Lull

There is a feeling among the oldtimers now that wartime shipbuilding has seen its last hull slide into the river with very little left in the way of peacetime new construction—although there are recurrent rumors of jobs now "in the fire."

The pessimists, who said there wouldn't and couldn't be a continuation of record-breaking shipbuilding, are saying "I told you so." Many oldtimers are glad to see the yards and their hodgepodge of races and imported workers begin to dwindle. Some businesses, especially those depending on shipyard trade, are not happy.

When the Scott E. Land, named after Vice-Admiral Land's father, slipped into the Columbia at Vancouver, it was the last of Kaiser's wartime ships. It was the 743rd ship built in this area by Kaiser.

When Swan Island yard made its 153rd delivery at the end of November, it was the last for that yard. The total includes 147 tankers built at the yard and 6 fleet-oilers completed there but built elsewhere.

Oregonship was through with wartime building at the same time with its 455th and at that time had a bare 700 workers on the payroll doing cleanup administration and maintenance work.

Work now is being confined to repair at Swan Island. The Vancouver yard will deliver its last vessel when outfitting is completed late in January. Oregonship, however, has three luxury liners to build now for Alcoa—something new for the Columbia River port.

Slated to cost $11,100,000, they will serve The Netherlands East Indies and India. Albert Bauer, recently placed in charge of Kaiser operations in this area, says construction will start after January 1 and peak employment will be about 2500. Final delivery has been set for September, 1946.

Russ Hoffman, wartime superintendent, will be general superintendent of construction. The standard Victory hull will be used, but accommodations for 56 passengers, more refrigeration space, a swimming pool, salon and other special accommodations will be added.

Co-Ops In Electric Field

There will be no lack of interest during the next few months in political doings that affect Columbia Empire industries. No. 1, probably, will be pending hearings on the proposed Columbia Valley authority. Already the two sides, largely public power enthusiasts on the one hand and industrialists on the other, have their men in the field contacting the "grass roots" to make sure proper sentiment goes to Oregon's congressmen and those from other affected Northwest states.

Dangers to water rights, loss of local authority, loss of the army engineers as a factor in Coast development and many other such items are becoming sore spots in the warming argument.

The second issue, also involving public power, is the organization of a dozen PUD, REA and private electric co-operatives in Oregon and Washington into the "Interstate Electric, Inc., with Charles Baker of Walla Walla as president.

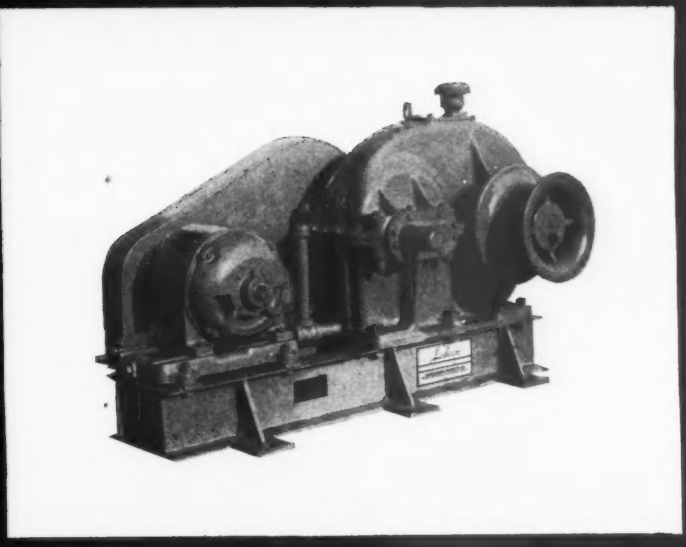
Baker makes it clear his group was formed for the express purpose of taking over the very unwilling Pacific Power & Light Company with headquarters in Portland.

An attempt to socialize the Pacific Power & Light Company's system without giving the people affected a chance to say "no" is the charge leveled against the newly-formed Interstate Electric, Inc., by Paul B. McKee, president of Pacific.

It is "just another back-door attempt by a self-appointed group to get control of an efficient, taxpaying enterprise which they propose to tear apart and socialize . . ." he charges, comparing it to the defeated Hood River scheme and laying blame for its planning at the door of public power officials.

Ledeen

CAR PULLERS



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REGIONAL REVIEWS

CONTINENTAL DIVIDE

DENVER—Getting braced for the rush of postwar tourist business in the Rocky Mountain area, several big oil companies of the Standard group are settling down to fight it out for the business.

Latest entrant is the world's largest oil corporation, Standard Oil Company of New Jersey, through its subsidiary, the Carter Oil Company. Carter has spent more than $10 million in the mountain states in the past three years acquiring producing properties in Wyoming, Montana, and Colorado.

A few weeks ago the Carter company bought the Powerine Company of Denver, largest independent oil and gasoline distributor in the region. Carter already had a distribution system in Montana, Wyoming and other parts of the Northwest.

Then came Carter's contract with Frontier Refining Company under which Frontier's Cheyenne, Wyo., refinery will process 1,000 barrels of Wyoming crude oil daily for the Powerine Company. M. H. Robineau, the president of Frontier, stated that the Carter contract will mean additional business and that other Frontier customers will be taken care of without difficulty.

Standard Oil of California and Standard Oil of Indiana are actively competing for the market in Colorado and adjacent states, with the California company having the advantage on the Western slope and Standard of Indiana firmly intrenched on the eastern side of the mountains.

An old operating agreement among the Standard companies prevents Standard of New Jersey from using the Standard name in the Rocky Mountain region, which was charted as "Indiana" territory.

Alaskan Statehood

Whether or not to help Alaska in its fight to become a state is a puzzle to businessmen and politicians up and down the Continental Divide. The mountain states want the Alcan highway kept in operation and want to see the airline northward from Great Falls, Montana, to Alaska and the Orient developed for commercial travel.

Despite the fact that the inland route was the Army's undisputed favorite for traffic headed for the far north and the far east, there is plenty of pressure from Puget Sound and other Pacific Coast interests to divert traffic up the coast to Alaska. The chances of saving the Alcan highway are slim, indeed, in spite of the average American's notion that he can load the family into that wonderful postwar automobile and cruise off to Alaska for the most-wonderful-of-all-vacation-trips.

It sounded like good strategy for the mountain states to support Alaska's bid for statehood. Then came Alaska's Governor, Ernest H. Gruening, to parley with other Western governors in a recent conference at Cheyenne. Gruening made it clear that he sides with the coastal route advocates, and that the sooner the Alcan road and its air route are abandoned the better it will suit him—and Alaska.

What the governors and businessmen in the mountain states are trying to figure out is whether somebody sold Governor Gruening a bill of goods and whether his views are those of the people of Alaska or just his own. A lot of Congressmen and Senators want to know, too.

Wonderful Wyoming Mud

How would you like to chew a nice mouthful of drilling mud? You may be doing so without knowing it, and paying for the privilege. Wyoming and the Black Hills of South Dakota produce a lot of mighty fine bentonite. This earthy stuff is in good demand as drilling mud for oil well use. It also is used in garages to absorb

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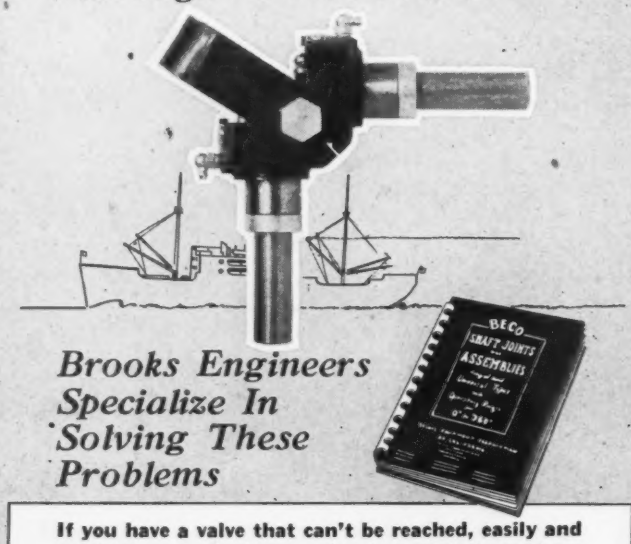

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grease and oils on the floors. Some is sold for use in paints and some goes into cosmetics.

But the payoff is that tons of the stuff, which gets wonderfully gooey when wet, are being shipped to candy manufacturers in Chicago for use in their candy bars and chocolate creams! A bentonite plant at Casper is being enlarged to process 150 tons of the material daily, and while practically all of it will go to the oil industry don't be surprised if you find yourself eating a bit of good old Wyoming gumbo.

Oil Is In

Dave Schrock is an Oregon seed grower, but the seed business must seem dull compared to his operations at Cat Creek in central Montana. After the Schrock-Fifer No. 1 wildcat well came in for 265 barrels of high gravity oil daily, opening up production in the deep Ellis sand for the first time in that part of the country, things began to pop fast.

The No. 2 well was drilled by Ike Taylor's rotary crew in 77 hours flat, and the No. 3 well was done in exactly 48 hours. Those were good oil wells, but the No. 4, which took nearly three days to drill in, outdid the production of the discovery well by producing 288 barrels daily. Others are being located and drilled as rapidly as the rig can be moved from one spot to another.

Young geologist-engineer H. H. Schwartz, Jr., is credited with the discovery and successful development program. Cat Creek field produced more than $15,000,000 worth of oil years ago, but had dropped to around 250 barrels a day from all wells before the new find by Dave Schrock. Continental Oil Company, largest operator in the field, is deepening its wells hoping to increase the flow by tapping the Ellis sand, and the Texas Company recently acquired a full section near the crest of the Cat Creek anticline. Again they're saying, "Oil is where you find it!"

Straight From the Feed Bag

It may be just a gossip sheet, as some cynics call it, but for bullish tips on business in Denver and its territory a lot of businessmen are watching Gene Cervi's weekly "confidential letter." Known as a stormy petrel in Colorado politics, Gene Cervi spends most of his time as chairman of the Democratic State Central Committee. His feud with the party's titular head in Colorado, senior Senator Edwin C. Johnson, is ever-popular newspaper copy.

Cervi follows the ultra-New Deal line in a state which has a Democratic party that is almost as conservative as the Republican party. Expecting to be ousted as party chairman, Cervi and some of his cronies from reporting days on the *Denver Post* launched the confidential letter as a service to businessmen.

At first the venture was ridiculed because nearly all of Cervi's prospective customers are his political enemies, but gradually it became apparent that they were willing to subscribe to his service just to see what he might have to say. In one of his recent letters, Cervi began in a hoarse whisper: "Dear Subscriber—Denver was 'cased' last week as a possible site for United Nations headquarters *and found wanting. . . .* " An item headed "New Cowboy" said, "Dr. William F. Gordon, prominent New York City dentist, has purchased extensive ranch in Jackson Hole, Wyo."

Reclamation Blues

Evidence that the U. S. Bureau of Reclamation is beginning to squirm uncomfortably over the Missouri Valley Authority issue was plentiful at a recent Denver meeting of the National Reclamation Association. On the touchy question of power development, which is the real heart of the whole MVA issue, the Bureau of Reclamation dared to part company with the power company spokesmen who are leading the fight against the MVA. The business people, dominating the association meeting, put through a resolution rebuking the Reclamation Bureau for playing up its interest in providing low-rate hydro-electric power in the Missouri Valley.

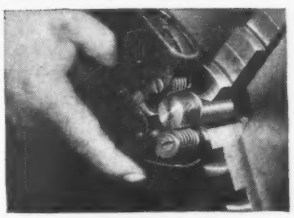
(Continued on page 68)

New Comparator Gage Saves Time
—Gives 6 Inspections in One!

Even the most inexperienced operator can obtain accurate inspection of externally threaded parts, with the Limitrol Comparator Gage—in many instances, increasing the rate of inspection as much as 400%! The Limitrol, proved in hundreds of war plants, permits 6 visual checks in one: pitch diameter, lead, taper, out-of-roundness, angle, and straightness. Its use reduces inspection and production costs, cuts scrap waste while increasing speeds of operation. If a part passes the Limitrol, it will assemble accurately.

Graduated dials are furnished as standard equipment. These dials are graduated in increments which approximate .0005 inch when the magnification is 250 to 1, and serve as a guide in determining just how far over or under the limits the part might be.

Another "help on the job" is chewing gum. Chewing seems to make work go easier, time go faster. Good chewing gum is available, but there's still a shortage. That's why we at Wrigley wish we could make Wrigley's Spearmint now, to help increase the available supply. You may be sure we will, just as soon as sugar restrictions are lifted. Meanwhile, chew any good available brand, because it's the chewing that really does you good.



Hand Model used for "in process" gaging

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AA-51

(Continued from page 67)

Irrigation Teaser

Meanwhile, the controversial question of a river authority patterned after TVA is being discussed in all parts of the region, with down-stream sentiment favoring such a step in order to control the oft-rampaging river and with the upper-basin states holding back motivated by the fear that an MVA might somehow upset the system of water rights for irrigation use, on which the whole economy of the semi-arid states has been built since pioneer days.

Machine Shops Grow

You can tell a lot about an area's industrial activity by sizing up its machine shops. That is the belief of Richard Ives, Denver equipment dealer, who reports that the Rocky Mountain region is becoming industrialized at a much faster rate than most people realize.

As proof, he cites the fact that his firm alone has sold 178 steel-working lathes of one make during the past 11 months in the Denver trade territory. Other lathes of different makes, including one $20,000 heavy-duty oil country lathe for a shop near the Salt Creek oil fields in Wyoming, have been installed by the same firm in large and small machine shops.

While the rapidly-increasing oil business of the mountain states accounts for a large part of the increase, Ives points out that much of the gain should be attributed to an increase in the number of small manufacturing enterprises.

Colorado Industrializing

The trek of West Coast manufacturers to Colorado is continuing, along with re-location of middle-western and eastern factories in the Denver area. Latest addition to the list is the Robvon Fabricating Company, headed by Robert H. von Ahrens, manufacturer of Robvon backing rings and other high-pressure welding devices.

After being identified with major construction projects including the George Washington Bridge, New York City subways, Brentwood State Hospital (88 buildings) and the Bear Mountain bridge, all in New York, von Ahrens joined the Kaiser shipyards on the West Coast as assistant superintendent in charge of piping facilities. Specializing in the failure of ship piping systems due to weakness in backing rings, as disclosed by X-Ray, he developed a new ring that soon was adopted by the U. S. Navy and Bureau of Ships.

He organized his own company, drawing in key technicians from the ship building companies with whom he had worked, and has moved his whole organization to Denver to engage in the manufacture and fabrication of steel products. The Robvon firm has purchased the large building of the Denver Sewer Pipe & Clay Company at Broadway and 22nd Street, as headquarters, laboratory and workshops.

Mining Tugging at Leash

With industrial use of silver now thoroughly established and pressure building up for a higher price for silver mined in the United States, mining is tugging at the leash in the first serious effort to snap out of its doldrums since Pearl Harbor day.

Although gold and silver mining still are handicapped for lack of miners, mint receipts and sales of equipment and supplies by mining supply houses in Denver show that a very real pickup has already taken place. That the recovery will be more rapid than generally expected is a fairly safe bet because of the extensive tunnel building and de-watering programs that had been completed or well started just before the shutdown of gold mining during the war. When the pickup does come, it can be expected to start some fireworks.

Silas G. Pierson has served for 33 years on the board of directors of the Colorado Fuel & Iron Company. In that time it has been through two wars, gone through receivership, had labor troubles that would discourage most industrial enterprises, changed from Rockefeller ownership to ownership by another Wall Street group. And now Mr. Pierson wants to quit. But the Board of Directors looked at his record —55 years with the company. Then they hit on a solution. "We elected 'Si' director emeritus for life, and he also will retain his office of vice president," said the new boss, E. Perry Holder.

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Salem Alumina Plant To Furnish Fertilizer

Ammonium sulphate for the farmers of the Pacific Northwest will be available for fertilizer purposes for the next several months, thanks to the production of excess amounts of the substance at the Salem alumina plant of the Columbia Metals Corporation.

Production of excess amounts of ammonium sulphate occurs in the regeneration of ammonium bisulphate from ammonium sulphate in electric furnaces. Ammonium bisulphate is the active reagent used in putting the alumina contained in the clay into solution.

Since ammonium sulphate can not be obtained on the open market it is necessary for the plant to make its own ammonium sulphate by neutralizing ammonia with sulfuric acid. Because capacity of the ammonium sulfate evaporator-crystallizers is much greater than the plant can absorb in its initial operation excess amounts of the substance are being obtained, purchase of which has been authorized by the government for resale to farmers.

So far authority has been granted for shipment of surplus ammonium sulphate to an amount not to exceed 2,500 tons by January 1. Application has also been made for additional shipments until March.

Columbia Empire Advertising Plan

Columbia Empire Industries, Inc., representing manufacturers throughout Oregon and Southern Washington, is planning to enter the advertising field to promote Columbia-made products. Heavy work at first will be within the Columbia Empire.

Such a program, based on optimistic forecasts by some members that their production would be up to 30 per cent greater in the postwar period, was outlined at the annual meeting in Portland where new directors were named. Officers are to be announced by directors later in the year. Membership has increased to an all-time high of 600.

New directors are P. E. Hodel of Huntington Rubber Mills; H. R. Kreitzer of Columbia Brick Works (only new director); George T. Bragg of Pacific Power & Light Co., Charles E. Cassel of Bergman Shoe Manufacturing Co.; Dr. Lief Underdahl of American Denture Corp.; and C. B. VanHouten of the W. P. Fuller Co., all of Portland.

From upstate are J. P. Brockel of Arden Farms, Vancouver; A. M. Epperly of R. Veal & Co., Albany; R. E. Hooker, Klamath Machine & Locomotive Works, Klamath Falls; Carl Koppe, Eugene Woolen Mills, Eugene; H. E. Morgan, Weyerhaeuser Timber Co., Longview; V. O. Williams, Dallas Machine & Locomotive Works, Dallas.

Industrial Exhibit Slated For Helena

Sponsored by the Helena Bank, an exhibit of Montana's industrial wealth will be shown at Helena at the opening of an addition to the Federal Reserve Building early in January, according to an announcement by Montanans, Incorporated.

The exhibit will heavily emphasize mining, agriculture and forest products. The part played by the state's power and transportation industries will also be shown, and working models of mines, oil refineries and other industrial units will also be on display.

Fontana Gets Steel Order From France

An order from France for 55,000 tons of semi-finished steel products has been placed with the Henry J. Kaiser steel plant at Fontana, according to an announcement early in December.

Delivery of the order, which is one of the largest placed by France in the United States in its rehabilitation program, is to start immediately and will continue for a four-month period.

Shipments are to be in the form of billets which will be reprocessed into finished material in France.

Two lengths of steel pipe . . . same diameter, same gauge, same length. They look alike, but there's a difference. One is clean inside; smooth . . . free from burrs that obstruct flow and promote corrosion. This is just a small part of Thaler service—each individual length of pipe is checked to insure the most efficient performance.

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REGIONAL REVIEWS

THE WASATCH FRONT

SALT LAKE CITY, Utah's economy is still rolling along on the feverish war level with no immediate signs of a relapse.

But realistic citizens are not trying to "kid" themselves into the notion that it is something that is going to be permanent without a substantial expansion in the area's economic base. They realize that the motive power is now coming from purchasing power accumulated during the war; that it is nothing more than the exhilaration of a binge which skyrocketed the state's income from $150 million back in 1933 to a peak of almost $600 million.

A savings and loan company official estimated in a speech recently that the state has an accumulated purchasing power of about $1 billion. But he pointed out the obvious fact that while this might maintain a high level of economic activity for awhile, the state will ultimately find itself in about the same situation it was before the war unless the payroll in basic industries—mining, manufacturing, agriculture, etc.—can be expanded.

Expansion A Must

A glance at recent history will substantiate his thesis. In 1920 the area had a fairly stable economy with what could reasonably be termed "full employment." But from that year to 1940 the population increased more than 100,000 while employment in basic industries decreased slightly. The base of the pyramid was inadequate to support the superstructure of service industries, with the result that in 1940 some 38,000 persons were unemployed, or on emergency relief work of one kind or another.

The war period brought a further increase in population, and, judging from housing conditions throughout the area, the people are not leaving. Thus, without the development of new basic industries or expansion of the established ones, a still larger superstructure will be perched on the same old base when accumulated purchasing power is dissipated.

More on Geneva

It is this rather dismal prospect that accounts for the intense interest of the area in the future of the Geneva steel plant. Here is something which, operating at a reasonably high level, would greatly strengthen the state's economic structure at the point it needs to be strengthened.

Local economists can make out a convincing case for the thesis that the steel plant, together with the satellite industries it would bring to the state, could virtually solve the basic industry employment problem for the present population.

Businessmen generally view it not so much as a new development upon which additional service industry and population could be piled as a block to fill in a gaping hole in the foundation supporting the existing economic structure. Thus there is bound up in its future not only a hope of future growth but a spectre of economic retrogression.

This point of view served to focus a critical public attention on the steel plant disposal policy hearings in Washington, D. C., and subsequent developments. On the whole the hearings and the policies enunciated were distinctly pleasing to the area.

Easier For U. S. Steel

Dr. J. R. Mahoney, director of the University of Utah's bureau of business and economic research, who supervised preparation of the surplus property board's report, feels that all the stated reasons for United States Steel Corporation's with-

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drawal as a prospective bidder have now been removed. And this feeling is generally shared by others who have been closely following the subject.

He is confident that with the political underbrush cleared away, the plant will be disposed of to a private operator within a reasonable period. Not everyone shares this optimism. But certainly the acceptance of the report and RFC's subsequent announcement that it would seek bids for outright sale or lease of the plant has dispelled some of the pessimism.

Utah Holding the Bag

One incident at the hearings placed a severe strain, from Utah's standpoint, on the internal unity of the Western States Council. When Cyrus Eaton of Otis & Co., appeared to recommend that the government padlock Geneva and hold it for possible use in a future national emergency, the Utah observers assumed that he was merely trying to do a job for Henry J. Kaiser and Fontana.

But when he announced that he was appearing for the California congressional delegation hackles began rising on Utah necks. They were mollified somewhat by the statement put into the record by the steel committee of the council. But the incident served to strengthen a growing belief that Utah must "carry the ball" alone so far as the Geneva plant is concerned.

Non-Ferrous Mining Meet In Salt Lake

Rising labor costs and decreasing labor efficiency is menacing nonferrous metal mining, leaders of the industry concluded at a recent conference in Salt Lake City. The occasion was the annual meeting of the board of governors of the Western Division, American Mining Congress, which served as a substitute this year for the prewar full-scale conventions.

Ickes Kicked Around

Without naming names, the mine and smelter executives took issue with Secretary of Interior Harold L. Ickes' thesis that the United States has become one of the "have not" nations so far as many strategic metals are concerned. The board declared in a statement of policy that the nation will not reach that condition in the foreseeable future and added that the industry is prepared to embark on a new program of exploration and development.

The policy statement tacitly admitted in other sections, however, that the country could be placed for all practical purposes in the "have not" classification by unfavorable governmental policies.

On public land policies the mining men opposed further extension of the leasing system and urged that the old policy of liberal granting of patents be reinstated. The present policy, prospectors complain, is to grant a patent only when it cannot be avoided. The group went on record opposing federal control of water pollution and asked for repeal of the excise tax on freight, which is particularly burdensome on the mining industry because of the large tonnages involved.

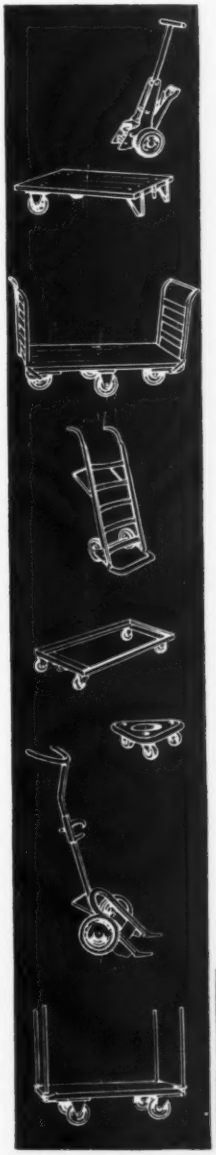
The tax and labor relations sections of the statement were in line with what business and industry generally are seeking.

Gold Mining Slow

A check of delegates from all the important gold mining areas indicated that the war's end and the lifting of the gold mining ban has had very little effect thus far on this segment of the industry.

A few of the best operations—such as Homestake in South Dakota—have reopened on a limited scale. But from most gold mining districts the story was the same—labor shortages and insufficient spread between costs and bullion returns fail to make resumption of work attractive. California, Nevada, Montana and Arizona delegates said they did not expect any substantial revival of gold mining unless and until the price is increased or operating costs go down.

HEADQUARTERS



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AN AGREEMENT intended to increase both production and take-home pay without starting an upward price spiral has been signed by the Vernon Works, Aluminum Company of America the local and international of UAW. It provides for a flat 10 cents an hour pay increase to employees, who agree on their part to hold production to a sufficiently high level that will largely absorb the expense of the pay raise.

The plant had about 5,000 employees at the peak of war production, at V-J day had a force of 2,600 and then shut down, reopening a few days later with 1,500. Otis McCreery, personnel manager, who signed the agreement on behalf of the company, assured the union bargainers at the conference that the plant was losing money and offered to prove it beyond all doubt if there was any question of his veracity.

Text of the agreement is as follows:

"The International Union and Local 808 UAW-CIO pledge their cooperation with the Aluminum Company of America, Vernon Works, in a program conducted within the framework of the present collective bargaining agreement. To increase and improve production.

"Although not limited to the following, such a program may include, where appropriate, such items as affecting economical, normal working schedules of 40 hours per week (this shall not serve in any way to jeopardize the union's case relative to overtime pay), most effective use of manpower and consolidating minor or incidental functions into other jobs to avoid idle time.

Company Pledge

"The company pledges itself not to abuse such a program. Not to require production necessitating unreasonable effort, agrees to continue its policy of not changing production standards, once set, unless methods, tools, and facilities are changed, and not to effect consolidation of job duties in a way that will result in unreasonable effort. (Whenever such consolidations might result in a rate change the matter shall be subject to negotiations).

No Slowdowns

"The union will not encourage, and will actively discourage slowdowns or other means of restricting productivity, and will not lend support to a "make-work" (feather bedding) case. This shall not be construed as surrendering the economic rights of the union.

"1. The company agrees to pay 10 cents per hour increase to all classifications and employees within the bargaining unit.

"2. The company agrees that no price relief shall be requested as a result of making these increases.

"3. Bonus checks shall remain the same.

"4. This 10 cents per hour increase shall become effective with the next pay-roll period.

"5. If the national wage policy takes such form at some later date so that the union appears at that time to have been placed in a disadvantageous position the company agrees to renegotiate the wage issue at that time."

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Strikers Can Get No Unemployment Payments

Claims by strikers for unemployment insurance payments will not be honored, according to a recent statement of the California Employment Stabilization Commission in a memorandum to its field staffs.

The disqualification applies to claimants who become unemployed either through going on strike themselves or through a refusal or failure on their part to cross picket lines.

In the case of lock-outs by employers or of discharges or layoffs brought about as a result of a strike, unemployment claims of workers will be honored, according to the memorandum.

But in California counties relief to the families of strikers by departments of public welfare, which are agencies of county governments, has no legal obstacles. Policy in this matter is set by the public welfare commissions of the individual counties which use need as the sole qualification for judging as to whether or not relief shall be granted.

Under this qualification, however, if a public welfare commission decides that a striker can obtain work, even though it not be in the line of his regular experience, it may refuse relief to his family even though the family might be indigent.

Night Shift Premiums Apply to Cement, Too

Efforts of the Ideal Cement Company of Portland, Colo., to have a ruling of the Ninth Regional War Labor Board set aside because the cement industry so far had not been brought into the group paying premium wages for night shifts have ended in failure.

The national board, in Washington, D. C., has upheld the regional board in its stipulation that the company must pay night shift premiums of four cents an hour on second shifts, five cents an hour on intermediate shifts and six cents an hour on third shifts. The board ruled that "since night work constitutes an added element of job content, such an award is clearly warranted in this case."

NLRB Battles to Check Pirating of Craftsmen

An intensive campaign to check violations of national wage stabilization regulations affecting the building and construction industry has been launched by the Wage Stabilization Unit of the 9th Regional War Labor Board, as part of a national drive.

Spot checks in the mountain states have revealed extensive pirating of skilled building craftsmen through payment of illegal wage rates which "is bogging down the reconversion program," according to chair-

(Continued on page 74)

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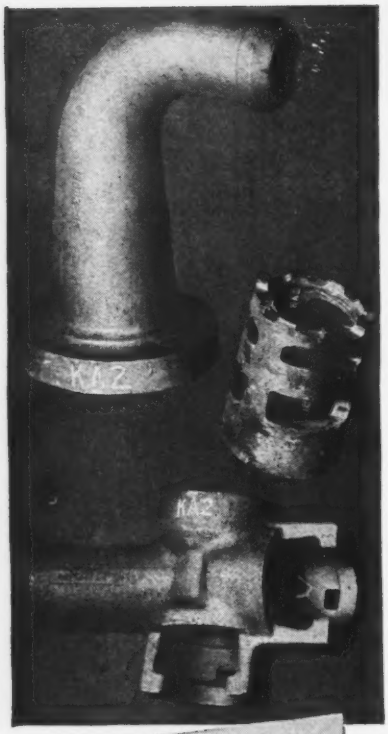

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(Continued from page 73)

man J. Glenn Donaldson of the 9th Regional Labor Board.

The investigation of cases in the vicinity of Casper, Wyo., has been completed and enforcement cases involving several construction companies in that part of Wyoming will be the first to be brought up in the current drive to check violations.

Adjustments Made On Cost of Living Basis

A cost of living clause is incorporated in the recent agreement of the casket manufacturers of Portland with the AFL casket workers union, and an adjustment became effective December 1 of about 1 3/8 per cent, reflecting an increase in the cost of living index from 119.1 in March 1942 to 135.3 in September 1945.

The clause in the agreement reads as follows:

"All wages and classifications shall be subject to adjustment to the cost of living in Portland, Oregon, as issued by the Bureau of Labor Statistics, Department of Labor. Adjustments shall be made June 1st and December 1st of each calendar year during the life of this agreement, and shall be determined by the following formula: Multiply the classified wage scale of this agreement by the index number issued for March or September each calendar year and divide by the index number for March 1942, but in no event shall the wages be less than the classified wages as stated in Section Eight or the existing wages after the signing of this agreement. It is agreed that the new index figures shall show an increase of five points before any adjustments are made."

Under the cost of living adjustment the change in classified wage schedules was made as follows:

Rate of June 1, 1942	Rate of Dec. 1, 1945
$ .725	$ .82
.81	.92
.86	.98
1.05	1.19

Report On Union Growth

A report on organized labor in California released by the Department of Industrial Welfare, prepared by the Division of Labor Statistics, disclosed that:

1. Despite tremendous growth during recent years of union membership in California the relatively small local union continues to be characteristic of the organized labor movement in this State. About half of the reporting locals have a membership of less than 100. However, these small locals account for only three per cent of total reported membership which is concentrated in the large locals.

2. Membership of reporting local unions increased two per cent between 1943 and 1944, despite a decrease in employment.

3. One of every five organized workers in California in 1944 was a woman, the highest ratio on record.

4. Exclusive of government employee organizations, 92 per cent of the reporting local unions in 1944 stated that collective bargaining agreements covered all or part of their membership. In 1939 only 81 per cent of the reporting unions made this claim.

Montana Mining Firm Found Non-Compliant

The Klies Mining Company, Neihart, Montana, has been found in non-compliance with an NWLB directive ordering it to pay retroactive wages to 62 employees in a total amount of $3,962.27.

The order was designed to bring the rate for miners to $7.00 and was retroactive to November 1, 1942. Workers affected were members of the International Union of Mine Mill and Smelter Workers, CIO.

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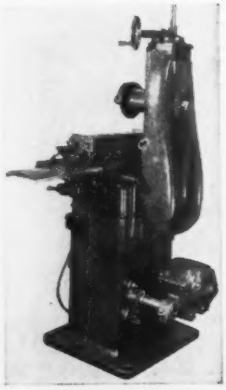

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CIO Plans Unionization Campaign Program

With the announcement that between 1,400,000 and 1,700,000 workers in California are not members of any union, the California CIO executive board has launched plans for "organizing the unorganized."

According to the board, union membership in June was divided as follows:

CIO	250,000
AFL	600,000
Independents	100,000
Total	950,000

At the same time the CIO executive board was notified that 27 CIO locals had paid 100 per cent or more of their 1945 quotas to the Political Action Committee for use in the state political action and legislative program.

NWLB Orders Extra Pay For Potash Miners

Extra pay for night work has been ordered for more than 1,000 employees of three potash mining and refining companies that operate in the Carlsbad, New Mexico area, according to an announcement by the nonferrous Metals Commission of the National War Labor Board.

The order settled disputes between members of a CIO union and the Potash Company of America, the United States Potash Company and the International Minerals and Chemical Company.

Also affected were workers in an electrical union of the AFL who were employed on property of two of the companies.

Both Sides Must Play Ball

A "no strike, walkout, slowdown or lock-out" bargaining agreement made September 29 resulted late in November in the signing of a one-year contract establishing an Upholsterers' pay scale in Portland on a parity with Tacoma and Seattle wage rates. Associated Employers Labor Bureau negotiated the contract for the Monte's Manufacturing Company, Portland Lounge & Chair Company, Portland Furniture Manufacturing Company, Western Sleepmaster Company, and Rose City Upholstery.

The agreement said: "It is hereby agreed . . . that there will be no strike, walkout or lockout during the negotiation of the Union's request for wage adjustments until all means of collective bargaining have been exhausted by both sides and through the use of government agencies. . . . It is further agreed by the Union that during the negotiations the Union will exercise good faith and that there will be no systematic slow-down in production in any of the . . . individual plants."

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THE WESTERN OUTLOOK . . . NEWS . . . STATISTICS . . .

THE PICTURE

The year 1945 closed on somewhat of a production downbeat evidenced by strikes and the uncertainties incident to reconversion of the West's economy to peace. Despite this, continued rises in prices of securities, the revival of foreign trade and the increasing momentum of domestic trade, as indicated by department store sales, bore witness to the marked probability that the West, along with the rest of the country, was somewhat in the position of a strong boxer who has just won a tough round. Like such a boxer the West rested, studying its opponent as it waited for the gong.

Lumber—*Prospect Betters*

Though lumber production for the Pacific Coast areas amounted to only 53,686,000 board feet per week for November, it is expected to soar to over 100,000,000 board feet per week in the near future, thanks to most mills being in operation again with an ample supply of logs at tidewater.

While unfilled orders increased by 30,000,000 board feet in November, the industry's unfilled order file is 22 per cent less than that of a year ago. Approximately 723,000,000 board feet are now on order but this number is expected to swell to a certain extent as the country gets around to solving the housing shortage.

Cumulative figures for 48 weeks of 1945 compared with the same period in previous years and measured in thousands of board feet, are as follows, according to the West Coast Lumbermen's Association:

	48 Weeks 1943	48 Weeks 1944	48 Weeks 1945
Production	7,501,544	7,365,570	5,446,591
Pct. of 1941-'45 years of production	96.3	94.6	69.9
Orders	7,692,052	7,685,023	5,888,112
Shipments	7,694,130	7,378,500	5,472,543

Western Pine Association figures covering Idaho White Pine, Ponderosa Pine, Sugar Pine and associated species for the current year ending December 1, 1945 are:

	1944	1945
Orders	3,464,053	2,732,530
Shipments	3,451,763	2,762,913
Production	3,288,312	2,566,486

California Redwood Association figures for Redwood lumber through the month of October (sawn products in M.. feet B.M.) are as follows:

	1944	1945
Orders	290,890	345,743
Production	380,952	336,121
Shipments	366,426	334,983

Copper—*Decline Ends*

Reversing itself from its drop during September, copper production in the eleven Western States during October showed an increase of 2,634 short tons for a total output of 60,249. Even with this increase, however, the month's production was still less than that of a year ago both in the West and throughout the country. Biggest portion of the increase was in New Mexico because of the return to normal operations of the Hurley smelter of the Kennecott Copper Corporation. Expectations are that copper output for the states will continue to rise for the balance of the year.

	Arizona	Montana	Utah	Total Western including other states
January	25,371	9,003	19,692	67,707
February	23,619	8,090	18,269	64,572
March	26,239	8,929	19,548	70,820
April	25,425	7,540	19,807	68,966
May	26,000	8,613	20,900	65,235
June	24,110	8,218	19,771	64,201
July	22,055	6,651	19,826	57,176
August	22,100	6,340	18,478	57,088
September	21,250	4,061	19,177	54,233
October*	22,000	7,100	17,900	57,103

(*October figures preliminary)

Aircraft—*Declines Continue*

The factory force engaged in aircraft production in California dropped to 52,200 in October of whom 12,200 were women.

Latest production figures of both army and navy planes, including revisions for the past three months are, according to the Aircraft Industries Association, as follows:

	No. of Planes	*Total Poundage*
January, 1945	1,630	22,440,000
February	1,436	21,146,000
March	1,621	24,146,000
April	1,437	22,973,000
May	1,336	22,578,000
June	1,196	20,007,000
July	906	16,012,000
August	527	10,251,514
September	282	5,223,645
October	268	2,368,620

Lumber production in thousands of board feet by states of the 11 Western States during the first six months of 1945 is shown in the following table. Figures for Utah and Wyoming are not reported separately. Source is the Lumber and Lumber Products Division of the War Production Board.

	Arizona	California	Colorado	Idaho	Montana	New Mexico	Oregon	Washington
January	12,900	119,449	7,123	51,876	21,024	4,872	477,191	332,504
February	12,348	105,701	6,516	51,154	21,324	6,257	453,271	302,803
March	9,429	126,002	6,103	59,322	27,669	6,402	494,204	322,410
April	12,349	170,362	5,473	60,562	24,029	6,237	471,151	309,592
May	16,656	247,665	6,414	72,672	37,763	9,932	500,898	338,616
June	14,211	262,529	6,786	73,806	42,728	7,651	491,757	331,683

Lumber production in thousands of board feet from Western Softwoods in the first 6 months of 1945 are as follows, according to figures by the Lumber and Lumber Products Division of the War Production Board:

	Port Orford Cedar	Western Red Cedar	Douglas Fir	White Fir	Western Hemlock	Larch-Douglas Fir	Ponderosa Pine	Sugar Pine	W. White Pine	Redwood	Sitka Spruce	Other	Total
January	3,750	18,030	573,463	25,641	55,942	49,983	196,499	10,303	25,289	35,495	25,111	17,241	1,036,747
February	3,854	12,926	522,521	14,498	53,878	52,865	201,420	9,551	22,464	32,284	22,977	19,269	968,507
March	4,534	14,551	553,539	19,343	76,823	48,769	238,175	13,296	24,562	34,304	16,585	16,569	1,061,050
April	4,120	15,085	515,391	23,955	45,980	76,180	274,362	14,340	25,522	35,168	19,810	16,480	1,066,393
May	3,000	12,572	548,664	34,289	56,802	94,127	354,335	22,482	34,757	39,800	20,194	17,565	1,238,587
June	2,464	17,761	526,108	40,164	51,618	103,730	365,888	26,419	25,415	38,277	19,976	22,090	1,239,910

Electric Energy—*Output Steadies*

Production of Electric Energy for Public Use—In thousands of Kilowatt Hours—Source: Federal Power commission

	Montana	Idaho	Wyoming	Colorado	New Mexico	Arizona	Utah	Nevada	Total Mtn.	Washington	Oregon	California	Total Pacific
January 1945	206,308	93,231	22,209	97,960	44,440	330,526	37,908	234,315	1,066,897	954,959	331,980	1,259,968	2,546,906
February	188,781	84,619	18,385	87,980	40,066	297,242	29,773	206,485	953,331	868,143	295,324	1,122,227	2,285,694
March	195,818	95,634	19,135	98,484	44,741	295,689	32,387	279,405	1,061,291	953,643	366,037	1,244,797	2,564,477
April	189,951	108,446	19,636	91,413	45,024	260,694	34,449	225,369	975,982	853,860	393,408	1,297,580	1,544,848
May	173,987	115,524	22,309	94,597	44,350	277,722	40,783	231,922	1,001,194	855,407	385,759	1,434,904	2,676,070
June	168,264	107,417	24,173	91,789	49,116	295,584	41,936	207,115	985,394	785,238	379,702	1,413,023	2,577,963
July	188,037	123,410	24,955	99,188	50,592	261,368	28,129	191,872	967,611	789,255	393,329	1,589,115	2,768,699
August	192,472	115,684	23,804	96,660	52,503	273,296	29,337	191,899	975,655	748,569	424,915	1,536,701	2,709,285
September	202,026	102,545	22,910	89,288	48,350	269,410	38,043	186,173	958,745	678,808	313,338	1,852,794	2,344,940
October	212,412	102,238	22,092	92,685	45,397	303,873	33,625	212,670	1,024,987	723,383	301,534	1,263,068	2,287,985

Coal—*Production Rises*

Reports by United States Bureau of Mines

	Montana	Wyoming	Colorado	New Mexico	Utah	Washington	Other	Total
Jan. 1945	460,000	956,000	760,000	153,000	660,000	140,000	2,000	3,131,000
February	390,000	792,000	730,000	130,000	540,000	128,000	1,000	2,761,000
March	472,000	890,000	763,000	157,000	620,000	140,000	1,000	3,043,000
April	325,000	712,000	565,000	115,000	532,000	110,000	.....	2,359,000
May	356,000	810,000	516,000	135,000	543,000	110,000	1,000	2,471,000
June	385,000	805,000	518,000	118,000	540,000	104,000	1,000	2,471,000
July	375,000	790,000	500,000	120,000	510,000	95,000	1,000	2,391,000
August	380,000	768,000	556,000	116,000	502,000	108,000	1,000	2,431,000
September	402,000	934,000	643,000	141,000	566,000	117,000	1,000	2,804,000
October	298,000	851,000	598,000	116,000	492,000	111,000	1,000	2,467,000
November	364,000	870,000	557,000	112,000	531,000	124,000	1,000	2,559,000

Unemployment Insurance Benefits —*Rise Slows*

Note: New Claims represents the number of persons applying for unemployment insurance benefit payments before receiving a first check. First Payments refers only to the number of recipients. (Figures for New Mexico have not yet been received.)

	Colorado	Idaho	Montana	Utah	Wyoming	Arizona	California	Nevada	Oregon	Washington	New Mexico
JULY											
New Claims	174	231	100	215	26	836	16,881	39	774	972	....
First Payments	63	107	39	92	4	413	11,683	19	628	1,007	....
AUGUST											
New Claims	1,252	101	200	384	27	3,034	75,494	238	4,905	8,453	....
First Payments	73	123	51	158	4	506	10,923	29	336	1,042	....
SEPTEMBER											
New Claims	1,645	208	476	562	59	2,618	....	322	6,819	19,479	....
First Payments	332	31	71	235	71	2,032	....	...	3,462	9,190	....
OCTOBER											
New Claims	1,444	343	1,036	767	110	....	....	...	9,904	15,267	....
First Payments	407	25	127	287	23	....	....	124	5,150	13,809	....
NOVEMBER											
New Claims	1,584	1,261	1,299	1,721	145	....	....	....	....	....	....
First Payments	343	53	267	704	36	....	....	....	....	....	....

Employment—*Eleven Western States*

Estimated Number of Employees in Non-Agricultural Establish ments—In Thousands—Source: U. S. Bureau of Labor Statistics

ALL INDUSTRY DIVISIONS

	Montana	Idaho	Wyoming	Colorado	New Mexico	Arizona	Utah	Nevada	Total Mountain	Washington	Oregon	California	Total Pacific
January	102	92.7	60.5	257	77.9	108.1	139	37.9	875	624	361	2,504	3,489
February	101	92.9	59.8	257	78.0	109.1	138	38.1	874	621	353	2,506	3,480
March	102	92.6	60.5	258	79.5	109.5	137	38.6	878	619	347	2,487	3,453
April	107	91.6	59.4	257	79.7	109.4	138	39.0	881	615	344	2,467	3,426
May	108	93.0	60.5	260	81.4	110.3	138	41.1	892	613	343	2,434	3,390
June	109	93.0	61.8	263	82.3	108.8	140	42.7	901	611	345	2,402	3,358
July	109	93.6	63.9	263	82.9	107.4	144	42.7	907	616	343	2,414	3,373
August	110	92.9	64.7	263	83.1	106.2	144	43.3	907	612	343	2,419	3,374

MANUFACTURING

December	13.2	14.7	4.8	48.3	5.0	18.1	28.5	1.9	135	254	138.1	877	1,269
January	12.6	13.1	4.2	44.9	5.1	18.9	26.1	1.8	127	251	162.8	854	1,268
February	12.0	13.2	4.3	46.4	5.3	19.5	26.5	1.8	125	249	154.9	847	1,251
March	11.9	13.5	4.2	47.2	5.1	19.4	22.5	1.7	126	247	147.0	824	1,218
April	12.1	13.3	4.3	46.9	5.0	19.6	22.0	1.7	125	240	143.0	803	1,186
May	12.1	14.2	4.1	47.0	5.0	19.5	21.7	1.6	125	235	140.5	760	1,136
June	12.0	13.9	4.3	47.5	4.9	16.1	22.0	1.5	124	232	140.7	722	1,095
July	11.9	15.4	4.4	48.4	4.9	17.0	25.1	1.5	129	233	137.9	719	1,090
August	12.4	14.2	4.4	48.0	5.2	16.1	24.9	1.5	127	224	135.1	720	1,079

By October 1945 the number of workers in all manufacturing industries in California, 468,100, had dropped to a point less than half as high as that two years previously when 915,900 persons were engaged in manufacturing throughout the state, according to figures released by the Division of Labor Statistics and Research, Department of Industrial Relations.

Approximately 30,000 fewer persons were working in durable goods production throughout the state during last October than in September. And in the production of non-durable goods there were more than 18,000 fewer persons employed.

Average weekly earnings for November declined to $48.06 from $56.62 in October 1944.

Cause of the reductions in employment are found chiefly in cutbacks in shipbuilding, aircraft production and the usual seasonal decline in the canning industry. In all other manufacturing industries a slight rise in employment took place, bringing the total employed labor force in those industries up to 306,600.

EMPLOYMENT—DURABLE GOODS INDUSTRIES
(Figures from Calif. Div. of Labor Statistics)

	San Francisco Bay Area	Los Angeles Indus'l Area	Total State
December	182,300	290,400	565,900
January 1945	178,600	288,400	558,700
February	175,700	287,200	555,800
March	161,600	283,700	537,700
April	148,100	272,500	512,800
May	140,500	254,000	481,700
June	134,400	234,900	450,700
July	124,400	226,100	431,100
August	117,900	217,100	414,000
September	84,100	149,600	288,500
October	72,100	135,900	259,300

Salmon Pack—*Hits Low*

With only 4,302,895 cases of salmon packed from the catch in Alaska waters, 1945 saw the poorest fishing in many years. Of the total pack 51 per cent was in pinks, 27 per cent in reds, 16 per cent in chums, 5 per cent in Cohos and 1 per cent in Kings. Comparative figures in cases for recent years are as follows:

	Western (Bristol Bay)	Central	Southeast	Total
1945	706,672	2,089,620	1,506,603	4,302,895
1944	1,043,126	1,877,381	1,972,552	4,893,059
1943	515,704	2,167,306	1,892,868	5,428,269
1942	1,215,746	1,954,154	2,648,707	5,075,866

Iron—*Production Steadies*

IRON ORE SHIPMENTS FROM MINES
(Reported by Bureau of Mines)

	Utah	Wyoming	Calif.	Total
January	175,735	65,318	33,205	274,258
February	138,594	53,619	16,251	208,414
March	182,576	58,934	18,291	260,401
April	190,157	45,253	32,065	267,475
May	185,632	43,047	32,913	261,592
June	164,783	52,461	29,872	247,116
July	142,461	44,434	28,086	214,981
August	176,061	47,430	100,755	324,246
September	142,798	40,838	14,545	198,181
October	141,550	48,932	5,888	196,370

Pig iron and steel production for the Western area of the United States are reported by the American Iron and Steel Institute in net tons as follows:

Pig Iron:		Percent of capacity	Year to date	Percent of capacity
January	172,223	71.5	172,223	71.5
February	151,409	69.6	323,632	70.6
March	171,151	71.0	494,783	70.7
April	162,738	69.7	657,521	70.5
May	149,184	61.9	806,705	68.7
June	141,334	60.6	948,039	67.4
July	141,317	58.8	1,089,356	66.1
August	135,740	56.3	1,225,096	64.9
September	104,190	44.8	1,329,286	62.7
October	105,708	43.9	1,434,994	60.7
Pig Iron (cont'd)		Percent of capacity	Year to date	Percent of capacity
Alloy Steel*:				
January	2,549	.....	2,549	.....
February	3,489	.....	6,038	.....
March	5,475	.....	11,513	.....
April	2,474	.....	13,987	.....
May	4,423	.....	18,410	.....
June	4,016	.....	22,426	.....
July	5,688	.....	28,114	.....
August	1,531	.....	29,645	.....
September	4,517	.....	34,162	.....
October	5,966	.....	40,128	.....
Steel Total:				
January	367,927	88.2	367,927	88.2
February	333,170	88.4	701,097	88.3
March	373,350	88.6	1,074,447	88.7
April	344,695	85.3	1,419,142	87.8
May	308,784	74.0	1,727,926	85.0
June	306,862	75.9	2,034,788	83.5
July	298,743	71.7	2,333,531	81.8
August	267,468	64.1	2,600,999	79.5
September	235,175	58.3	2,836,174	77.2
October	223,796	53.6	3,059,970	74.8
Carbon Ingots, Hot Topped*:				
January	52,514	.....	52,514	.....
February	54,049	.....	106,563	.....
March	56,450	.....	163,013	.....
April	51,498	.....	214,511	.....
May	37,426	.....	251,937	.....
June	21,144	.....	273,081	.....
July	9,073	.....	282,154	.....
August	8,204	.....	290,358	.....
September	3,623	.....	293,981	.....
October	8,442	.....	319,095	.....

**Included in total steel.*

THE TREND

With veterans returning to the West at a rate of several thousand a week—in the state of Washington alone it amounts to a cool thousand a day—the labor force is rapidly swelling to the point where in a few months no shortages will exist. Accompanying this is increasing activity on the part of industry to bring the economy of the country into a state of smoothly functioning peacetime operation. The tendency to strikes on the part of labor continues, but the indications are it will decrease as the months of 1946 are stripped from the calendar.

THE WESTERN OUTLOOK . . . . (CONTINUED)

Ships—*More Declines*

Figures for November ship construction are as follows:

1945	Keels Laid	Ships Launched	Ships Deliv'd	Thousands of Deadwt. tons
Mar.	50	50	55	612
April	43	50	47	487
May	38	46	53	534
June	38	44	46	466
July	29	42	42	409
August	15	23	31	335
Sept.	2	14	28	250
Oct.	2	9	27	257
Nov.	1	7	14	125

(Among ships delivered were nine cargo ships, two transports, two tankers and one lumber freighter; among ships launched were six cargo ships, one lumber freighter. The keel laid was that of a cargo ship.)

Oil—*Deliveries Drop*

Total deliveries of all petroleum products in the Pacific Coast territory amounted to only 897,000 bbls. a day during October, representing a decline of 57,000 bbls. daily from the September deliveries. Since total supply came to about 896,000 bbls. daily there was a daily net of about 1,000 added to storage.

Total amount delivered by the oil companies in the Pacific Coast area, including all deliveries to the federal government and any offshore shipments and including transportation and other losses, is as follows:

	All Products (Bbls.) 1944	1945
January	993,000	1,066,000
February	1,011,000	1,124,000
March	1,018,000	1,068,000
April	954,000	1,148,000
May	900,000	1,135,000
June	969,000	1,085,000
July	884,000	1,011,000
August	883,000	1,010,000
September	902,000	954,000
October	945,000	897,000

Freight—*Western Traffic*

Reflecting the effect of the war's end, traffic figures for the West showed a steep decline in November.

Total traffic figures for the railroads in the Far West are as follows:

	Loadings	Eastern connections	Total
Jan. 1945	564,860	375,156	940,016
February	529,358	379,734	909,092
March	667,606	484,349	1,151,955
April	523,134	361,902	885,036
May	616,482	452,552	1,069,034
June	598,212	399,971	998,183
July	960,556	388,440	1,348,996
August	695,277	450,497	1,145,774
September	595,143	310,868	906,011
October	617,023	313,964	930,967
Nov.	535,620	278,746	814,366

Food Costs—*Western Market Centers, August 14, 1945*

Principal Articles of Food by Cities on August 14, 1945, Compiled by U. S. Department of Labor

	BUTTE, MONT.		DENVER, COLO.		LOS ANGELES		PORTLAND, ORE.		SALT LAKE CITY		SAN FRANCISCO		SEATTLE, WASH.	
CEREALS & BAKERY PRODUCTS:	Average	Range of Prices	Average	Range of Prices	Average	Range of Prices	Average	Range of Prices	Average	Range of Prices	Average	Range of Prices	Average	Range of Prices
Cereals:	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents
Flour (10 lbs.)	58.0	49.0-70.0	55.5	52.0-66.0	66.6	48.0-78.0	58.9	48.0-66.0	58.8	51.0-71.0	69.7	52.0-80.0	61.5	55.0-72.0
Rice (lb.)	15.1	12.0-20.0	11.8	10.0-17.0	13.4	12.0-16.0	13.7	12.0-18.0	12.8	10.2-17.3	12.0	10.0-15.0	...	.....
Bakery products:														
Bread, white (lb.)	9.9	9.3-10.0	8.7	6.0-10.0	8.5	6.7-10.0	9.3	8.0-10.0	8.7	6.9-10.2	9.6	8.0-10.0	9.9	8.9-10.4
Bread, whole wheat (lb.)	10.0	10.0-10.0	8.5	6.0-10.0	8.6	6.7-10.0	9.5	8.0-10.0	8.6	6.9-11.1	9.7	8.0-10.0	9.8	8.9-10.4
Meats:														
Rib roast (lb.)	31.5	27.0-35.0	...	.....	33.1	29.0-39.0	33.2	30.0-39.0	33.3	31.6-36.7	34.4	31.0-39.0	34.9	33.0-40.0
Hamburger (lb.)	27.6	27.0-28.0	...	.....	29.4	28.0-33.0	29.2	28.0-30.0	27.6	26.5-28.6	29.5	29.0-30.0	29.9	28.6-31.0
Pork chops (lb.)	37.9	35.0-39.0	38.6	37.0-39.0	38.7	38.0-45.0	...	.....	38.6	37.7-39.8	...	.....	40.0	39.0-41.0
Bacon, sliced (lb.)	43.4	40.0-46.0	42.2	41.0-43.0	42.6	42.0-45.0	43.7	40.0-44.0	42.8	41.8-44.8	...	.....	44.5	43.0-45.0
Bologna, big ((lb.)	32.4	29.0-38.0	32.9	29.0-36.0	33.9	30.0-39.0	28.8	25.0-33.0	32.0	29.6-35.7	36.3	34.0-45.0	36.0	35.0-39.0
Leg of Lamb (lb.)	37.9	35.0-40.0	...	.....	40.8	37.0-43.0	40.3	38.0-43.0	38.9	37.7-41.8	40.4	39.0-43.0	40.7	37.0-44.0

Social Security—*Benefits in Force in the West, June 30, 1945*

	Living wage earners		Wives of living wage earners		Children of living & deceased wage earners		Widows—65 years old or over		Widows having children under age 16		Parents of deceased wage earners		TOTAL NO. of Benefits	TOTAL AMT. of Benefits
State	No. of Benefits	Amount of Benefits	No. of Benefits	Amount of Benefits	No. of Benefits	Amount of Benefits	No. of Benefits	Amount of Benefits	No. of Benefits	Amount of Benefits	No. of Benefits	Amount of Benefits	being paid in States	being paid in States
Arizona	1351	$ 32,121.40	322	$ 4,143.99	1778	$ 21,457.56	119	$ 2,381.11	580	$ 11,220.92	20	$ 243.31	4170	$ 71,568.29
California	40445	976,043.53	11028	145,123.26	20280	272,415.46	4842	98,173.51	8720	181,476.27	290	4,125.15	85605	1,677,357.18
Colorado	4182	98,375.29	1218	15,121.36	2555	31,206.61	543	10,945.40	980	18,877.51	27	362.78	9505	174,888.95
Idaho	1392	30,372.29	329	3,836.02	1083	12,976.96	124	2,244.13	377	7,131.81	14	194.80	3319	56,756.01
Montana	1819	43,595.71	443	5,637.04	1152	14,944.00	233	4,846.25	449	9,213.97	15	205.42	4111	78,442.39
New Mexico	673	14,689.28	164	1,918.81	1114	11,689.44	75	1,403.50	390	6,653.92	3	35.93	2419	36,390.88
Nevada	477	11,781.58	68	996.41	322	4,130.94	45	894.98	89	1,730.32	3	39.96	1004	19,574.19
Oregon	6793	159,065.99	1894	23,529.97	3130	39,990.72	718	14,266.64	1231	24,241.44	55	728.55	13821	261,823.31
Utah	1584	37,657.14	550	6,908.99	2076	25,185.32	214	4,180.50	681	13,344.00	10	134.07	5115	87,410.02
Washington	11027	266,640.07	3038	39,421.09	4974	62,923.56	1223	25,050.83	1857	37,679.78	65	890.51	22184	432,605.84
Wyoming	678	15,616.66	149	1,764,30	513	6,434.97	56	1,043.37	183	3,545.44	6	91.60	1585	28,496.34
TOTALS	70421	$1,685,958.94	19203	$248,401.24	38977	$503,355.54	8192	$165,430.22	15537	$315,115.38	508	$7,052.08	152838	$2,925,313.40

Warehousing—*Slight Constriction*

Space available in warehouses throughout the West underwent a seasonal constriction during October which was expected to continue into at least the early part of November. From then on for the balance of the year warehouse space was expected to become more available as the holiday buying got under way.

The following statistics on Public-Merchandise Warehousing are based on the reports of 645 firms and are made available by the Bureau of the Census, Department of Commerce.

	Mountain and Pacific Division	Idaho	Montana, Utah and Wyoming	Arizona, Nevada and New Mexico	Colorado except Denver	Denver	Washington except Seattle	Seattle	Oregon except Portland	Portland	California except L.A. and S.F.	Los Angeles	San Francisco
July 1945	91.4	91.9	85.3	94.1	64.9	77.8	88.2	97.5	97.3	89.4	87.4	95.7	94.2
August 1945	91.6	95.0	85.2	92.2	67.3	82.8	91.4	96.3	97.3	85.0	90.6	95.0	93.9
September 1945	81.6	95.8	81.7	91.3	51.4	86.5	92.4	95.1	97..3	88.7	86.5	95.1	94.0
October 1945	91.9	96.1	93.4	93.4	57.7	94.9	97.5	94.9	97.3	91.3	90.1	9[illegible]5	91.1

Lead—*Production Makes Slight Gain*

Figures are according to monthly reports of the U. S. Bureau of Mines

	Arizona	California	Colorado	Idaho	Montana	Nevada	New Mexico	Utah	Washington	Wyoming	Total
July	2,035	507	1,361	5,000	1,068	552	590	2,602	152	....	13,867
August	1,861	522	1,404	5,196	822	535	546	3,259	302	....	14,450
September	1,569	650	1,686	4,600	868	508	468	3,030	215	....	13,591
October (preliminary)	1,650	600	1,623	4,800	900	500	492	3,050	270	....	13,885

Zinc—*Slight Rise*

Production of zinc, in short tons, in each of the 11 Western Sttes on a monthly basis is as follows, according to the U. S. Bureau of Mines:

	Arizona	California	Colorado	Idaho	Montana	Nevada	New Mexico	Utah	Washington	Total
July	3,426	620	2,985	5,860	2,463	1,184	3,077	1,967	769	22,351
August	3,360	626	2,965	4,663	1,749	2,017	2,759	2,259	716	21,114
September (preliminary)	3.289	600	2,923	5,705	1,700	2,202	2,868	2,340	866	22,493

EFFICIENCY KINKS FROM WESTERN PLANTS

Production short-cuts • Worker's suggestions • Prize-winning awards

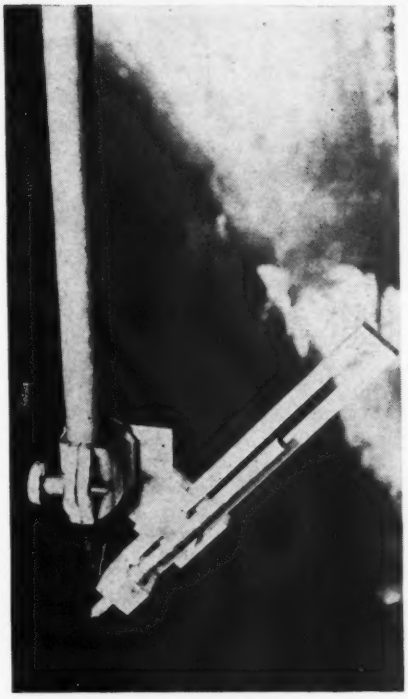
THOUGH designed for use in measurement of propeller blades, an adjustable pitchometer rod, developed by two employees of the Mare Island Navy Yard propeller shop, may prove of value to some problems in civilian industry.

The attachment was developed because of the tendency of the pitchometer rod, when used alone, to slip on steeply sloping blades of the propeller thus making accurate measurements at right angles to the propeller pitch line most difficult to obtain.

As shown in the accompanying illustration, the attachment consists of a graduated pointer, slidable in a adjustable holder which is mounted on a graduated plate. A clamp is used to hold it in place.

Once clamped and set in proper relation to the point of the pitchometer rod, this device permits accurate measurement of the desired points, directly indicating the amount of plus or minus metal at right angles to the propeller pitch line.

By moving the pitchometer 5 degrees to the leading edge, the pitchometer is dropped the corresponding amount of pitch for 5 degrees. The attachment is then rotated and set to the correct angle graduation and the measurement is taken from the graduations that lie along the pointer. In a similar manner measurements for other points are taken.



• Pitchometer Rod

Evidence of the practicality of the device lies in the fact that it was used on approximately 30 propellers a month at the Mare Island Navy Yard where it affected a considerable savings in cost.

* * *

Wartime shortages of sheet steel at the Colorado CF&I plant is responsible for the use of welded wire for the first time as a substitute material for flooring of overhead platforms and stairways.

Prime advantage of welded wire's use for this purpose is that little ice, snow or moisture can collect upon the steps, and what little does form there is only a minor hazard for secure footing since the two inch mesh insures a firm grip for the feet at all times.

Still another advantage that accrues to plants making use of welded wire for stairways and overhead walkways is that it does not shut off anywhere near the same amount of light as the more traditional forms of materials used for these purposes.

Some users also think that employment of the mesh is safer than other types of material since some kinds of falling objects, which would form a definite hazard if they fell on the regular kind of stairways where they could roll down unimpeded so far as the flooring is concerned, tend to catch in the mesh before they can roll far.

AT LAST a BOOK giving FACTS about

WESTERN RESOURCES WESTERN MARKETS *and the* WORLD TRADE RELATIONS *of the* 11 Western States

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ARIZONA

HAWLEY TOOL IN PRODUCTION—Hawley Tool & Die Co. has opened its new plant at 713 W. Lincoln St., Phoenix. The company will market a new design angle and sine block on a nationwide basis.

MAY GET THIRD ROUTE—Eastern Air Lines has filed application with Civil Aeronautics Board for permission to extend its air line from Houston, Tex., through Phoenix to the coast, and its line from Port Arthur across northern Arizona to San Francisco. Other stops on the route would be Tucson, Flagstaff and Kingman.

MEAT PACKING COMPANY FORMED—E. R. Hassett, Tempe; S. C. Burch, Frank Moore and M. A. Saye, Phoenix, have formed the Tempe Meat Packing Company which is capitalized at $200,000.

WINTER RESORT—C. E. Baldwin, Phoenix, will build an extensive winter resort costing several hundred thousand dollars on the Archer estate near Phoenix. It will operate as a winter resort hotel.

MINE INCORPORATION—The Rio Del Monte Mines, Inc., Yuma, has filed incorporation articles. The firm, capitalized at $500,000, lists O. K. Gilliam, Carson City, Nev., E. V. Eckel, Tujunga, Calif., and W. H. Westover, Yuma, as incorporators.

COPPER FOR ARIZONA—A large low-grade copper deposit has been located in the San Manuel area of Arizona, the Geological Survey reports. If present indications of its size and grade are substantiated and suitable mining and metallurgical methods developed, the survey says it may prove to be the most important copper discovery in Arizona in the last decade.

WAREHOUSE—The Arizona Mercantile Company is erecting a new warehouse building in Phoenix. It will be a monolithic concrete structure, 50 x 72 feet, with a full basement under the entire plant. The upper floor level will be truck and railroad car height to facilitate handling of merchandise.

BUSINESS BLOCK—A masonry business building is under construction for Stone and Meisel, 233-39 East Washington Street, Phoenix, which will replace an old structure. It will be one-story, 50 x 80 feet, divided into three storerooms with deeply recessed entrances to provide large window display space. Will be built with brick walls, composition roof and concrete floors. Front will be faced with precast art stone.

NEW PLANT—Arizona Iron Works, 313 South 19th Avenue, Phoenix, will erect a new plant building at the above address. Building will be 53 x 166 feet with space left in front for future construction of a modern office unit for the shop. Will have brick walls, a steel roof and will contain modern lockers and dressing room sections.

CALIFORNIA

NEW RUBBER PLANT—Ohio Rubber Company has purchased a 20-acre site in Long Beach for immediate erection of a $1 million branch factory, 100 square feet in size. The plant which will be operated by summer '46, will be able to produce about $2 million worth of rubber goods annually, including floor mats and step plates for automobiles.

NEW STRUCTURE—Readymix Concrete Co., Carolina and Mariposa streets, San Francisco, is remodeling and expanding, including building a steel conveyor structure.

NEW SARDINE PACKER—Princeton Packers, Inc., Princeton, Calif., (near Halfmoon Bay) has started production in its new factory. The firm is headed by Arthur Patrick.

MORE MACARONI IN THE OFFING—Grocers Packing Co., Modesto, is building a $175,000 plant for packaging of bulk foods and manufacture of macaroni.

MERGER—Food Machinery Corporation has acquired Mechanical Foundries, Inc., Vernon, which will be known as Mechanical Foundries Co. It will provide a West Coast facility for all divisions of Food Machinery Co.

LAMINATED PLASTICS—Taylor Fibre Co., will manufacture laminated plastics in a building acquired by the company at Laverne. William Rose will be manager of the plant.

MOFFETT FIELD ENLARGED—The Naval Air Transport Service on the Pacific Coast will be permanently assigned to Moffet Field, San Jose.

TIMM AIRCRAFT CORP. BUYS PLANT—The Aero-Crafts Plant in the San Fernando Valley has been purchased by Timm Aircraft Corp. for manufacturing the new Timm automatic vacuum cleaner. The plant contains approximately 85,000 square feet of floor space on a five acre plot.

ELECTRIC TOOL & SUPPLY CO. EXPANDS—A new building will be erected by Electric Tool & Supply Co., 5316 Santa Fe Avenue, Los Angeles, at 30th and Santa Fe Avenues. The first unit to be built on the acre of ground purchased for future expansion will contain 15,000 square feet. A. R. Williams and F. W. Floyd are owners of the company which is managed by M. W. Nelson.

NEW TRUCK TERMINAL—A. Pasteris Co., Oakland, has started construction of a block square repair shop and truck terminal costing $50,000 which runs from Wood to Willow Streets and Twenty-Second Avenue. It will provide 26,000 square feet of shop room.

SPACE IN DEMAND AT OAKLAND MUNICIPAL AIRPORT—Twenty-four commercial aviation firms have applied for a total of 223,000 square feet of hangar and office space at Oakland Municipal Airport.

WASHING MACHINE COMPANY BREAKS GROUND—Electric Household Utilities Corp., Hurley Machine Division, has started construction of facilities to cost $250,000 originally and more than $1 million ultimately in El Monte. The single-story buildings will provide 45,000 square feet of factory space on the ten-acre area and 150,000 square feet ultimately. Orv Mohler is general manager.

NEW TRUCK TERMINAL—Thompson-Sage Co., Stockton, is starting a new Wilson Way and Sonora shop and truck terminal costing $150,000.

GLASS PLANT—Ball Bros., Muncie, Ind., has acquired 30 acres in El Monte and begins construction in February of the first factory unit containing 100,000 square feet, at an estimated cost of $1 million. Later it is planned to build additions bringing the floor area to 320,000 square feet. Company will make fruit jars, as well as other types of glass containers. Hugh Crawford will be Pacific Coast Manager.

TO MAKE TRAILERS—Aerobody Co., 4001 E. Washington Boulevard, Los Angeles, has started construction of a building for manufacture of trailer bodies.

WESTERN FACTORY—The Tayp-Rap Corp., 4619 Alger Street, Los Angeles, begins manufacture of cotton tape for gift wrapping and industrial tape the first of the year. The company is a western branch of a New York factory and will serve the 11 Western states. Daniel des Foldes is owner and manager.

SAUSAGE FACTORY—Colesie Sausage Co., 3710 E. 45th Street, Los Angeles, has started construction of the first unit containing 7,000 square feet of a 25,000 unit when completed, for meat processing.

PREPARED FOODS—Boncquet Products, 5770 Washington Blvd., Culver City, will begin production of prepared foods, such as protein hydrolysate made from meat, eggs, milk, cheese, etc.

NEW ABRASIVE PLANT—Abrasive Shot & Grit Co., 5035 Firestone Blvd., South Gate, is building a new plant.

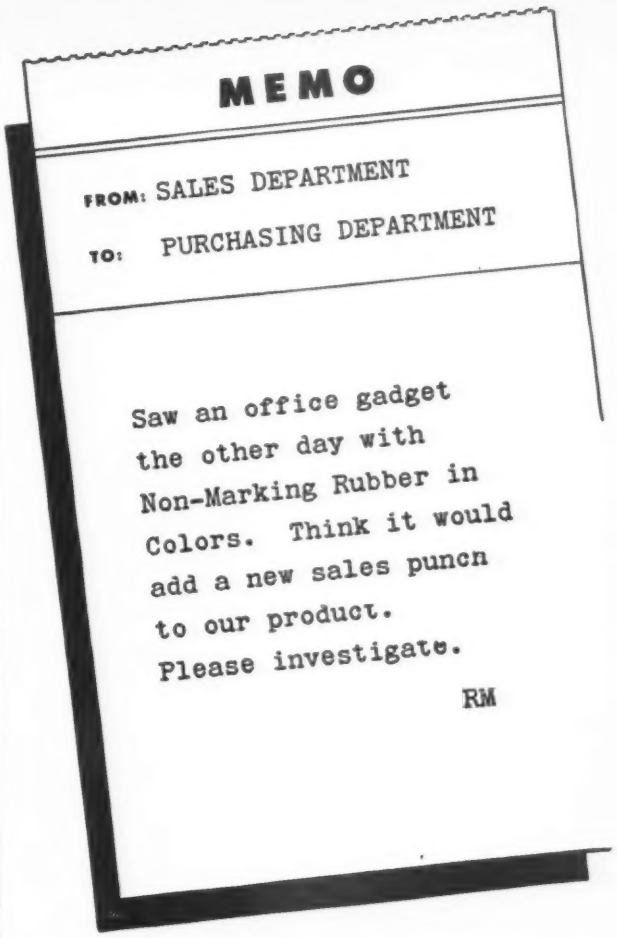
KITCHENWARE—Aladdin Chemical & Mfg. Co., 55 E. Angeleno Street, Burbank, will soon be in production on "Aladdinware"—a line of kitchen utensils, etc. S. J. Hurwitt is president.

NEW PLANT—Fedco Co., Rosemead, is constructing a plant to produce animal feed on Ong Street, El Monte, which will contain 82,500 square feet of floor area. Estimated cost is $250,000.

CERAMIC PRODUCTS—American Ceramic Products Co., Inc., 6205 Compton Avenue, Los Angeles, is erecting a building containing 27,000 square feet of floor space, at 3000 Nebraska Street, Santa Monica, where it will make pottery dinnerware.

NEW BUILDING—Bu-Tay Products, Inc., 4609 S. Hampton Avenue, Los Angeles, is erecting a 15,000 square foot building at 5832 S. Garfield Avenue which will be used in connection with the present plant for manufacture of its washing powder.

TO MOVE—Erlen Soap & Chemical Co., now at 2632 E. 54th Street, Huntington Park, is constructing a building at 700-710 Flower Street, Burbank, where it will move the first of the year. The company makes industrial cleaners, floor wax, cosmetics, etc.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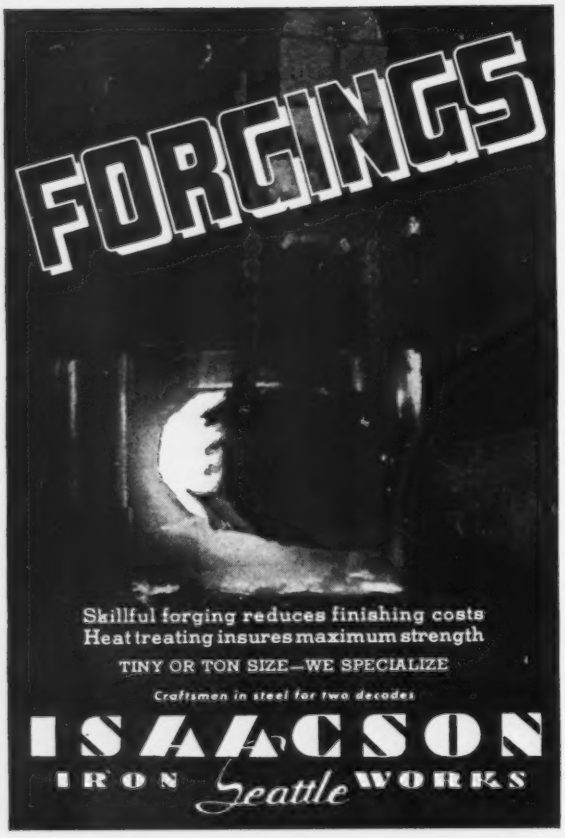

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RADIO CABINETS—Klassen Co., 2335 E. 27th Street, Los Angeles, is adding 14,000 square feet to production facilities for radio cabinet manufacture.

SPORTSWEAR—B & W Sportswear, 308 E. 9th Street, Los Angeles, has acquired property at 1300 S. Main Street, where it will construct a two-story building containing 13,000 square feet, where it will make women's skirts, jackets, slacks and slack suits.

EXPANDS BUILDING—Consolidated Machinery Co., 2031 Santa Fe Avenue, Los Angeles, has increased facilities by 12,000 square feet for the manufacture of its "Comet" radial power saws and woodworking machinery.

HALL-MACK ADDITION—Hall-Mack Company, 1344 W. Washington Blvd., Los Angeles, has begun addition of 12,000 square feet to manufacturing facilities for plumbing and bathroom accessories.

CONVEYOR EXPANSION—Link Belt Co., Pacific Division, 365 S. Anderson Street, Los Angeles, increasing manufacturing space by 12,000 square feet for production of elevating and conveying equipment.

NEW WELDING SHOP—Abegg & Reinhold Co., 2541 E. 26th Street, Los Angeles, is erecting a new welding shop containing 5,000 square feet; adding 2,400 square feet to heat treating plant, and 1,600 square feet to a machine shop. The company makes oil well tools and does commercial heat treating.

CERAMICS—Glostex Chemical Company has constructed a building at 3056 Bandini Blvd., Los Angeles, which contains 9,000 square feet. It will manufacture frits for the ceramic industry.

LIGHT METALS—AACCO, Inc., 843 E. 31st Street, Los Angeles, plans construction of an 8,000 square foot addition and installation of new equipment for its production of die, aluminum, manganese, bronze, magnesium, zinc castings and permanent molds.

NEW LOCATION—Hook's Machine Shop, which makes overhead garage-door hardware, has moved to 6106 Walker Avenue, Los Angeles, where it has erected a 6,400 square foot building.

NEW PLANT—Wheeler & Reeder, 706 N. Street, Los Angeles, is building a new plant at 3475 E. 24th Street, where it will move January 1. Company makes blower systems and planing mill incinerators.

PHONOGRAPH RECORDS—Howard M. Courtney, 1419 Nadeau Street, Los Angeles, has erected a building adjacent to his present location, where production of phonograph records will be expanded.

BRASS CASTINGS—Bogart Foundry & Mfg. Co. is building a foundry at 6131 Maywood Avenue, Huntington Park, where grey iron and brass castings will be manufactured as well as aluminum castings.

MORE PLATING—Art Plating Works, 855½ S. San Pedro Street, Los Angeles, is erecting a building at 742 San Julian Street for additional facilities for electro, gold, silver and copper plating. After the first of the year when the new building is occupied, electro forming will be handled.

EXPANDS—Advanced Blower & Pipe Company is now occupying the building at 4528 E. Washington Blvd., Los Angeles, where it has three times former floor space for production of dust collecting and air conditioning systems, as well as sheet metal work.

PUMP MANUFACTURE—Fluid Packed Pump Co., 2142 Norwalk Blvd., Los Nietos, is expanding facilities for increased manufacture of oil well pumps.

MODEL ENGINES—Air-O-Model Supply Company is erecting a building at 741 N. Prairie Ave., Hawthorne, where considerable increased space will be available for manufacture of model engines and accessories.

ELECTRO-PLATING—Perfection Plated Products Co. has moved to 655 Crocker Street, Los Angeles, where it has increased space for electro plating.

BOOK MATCHES—Monarch Match Co. will build a $250,000 book match manufacturing plant at Monterey and Tully Roads, San Jose.

LITHOGRAPH PLANT—H. S. Crocker Co., 720 Mission Street, San Francisco, will construct a 3½ acre lithograph plant on a 10 acre site at San Bruno.

HUNT FOODS MERGER APPROVED—Hunt Foods stockholders have ratified the merger with California Conserving Co. The new firm has 15 plants capable of turning out $30 million worth of processed foods a year.

SEA FOOD FIRM TO EXPAND—Myer Simon, president of the California Sea Food Corporation, has purchased all Pacific Electric Railway Company holdings on the ocean front at Redondo Beach. Property involved includes two blocks extending along El Paseo, north and south from Emerald Street, comprising all of the beach amusement zone.

MERCHANDISE MART TO BE ENLARGED—An addition half as large again as the present Western Merchandise Mart, to run 325 feet down Ninth Street from Market to Jessie Street, will increase the size of the Mart in San Francisco. The new addition will give the building an "L" appearance, and is estimated to cost in the neighborhood of two millions.

MINE TO BE DEVELOPED—The Afterthought Mine at Ingot, near Redding, has been reopened and an intensive development program is expected to develop, concentrating zinc and copper ores through advanced selective flotation processes and shipping them to smelters.

NEW EQUIPMENT—A giant Banbury mixer has just been installed by the Oliver Tire and Rubber Co., Oakland. It is one of a series of new equipment installations to be completed early in 1946.

SAN FRANCISCO BECOMES FULL NAVAL BASE—The 24 existing naval establishments in the San Francisco area will be organized into one administrative unit—the San Francisco naval base, the Navy has announced.

INVENTOR FORMS HELICOPTER COMPANY—Stanley Hiller Jr., 21-year-old Berkeley industrialist, who invented, built and flew the first successful co-axial helicopter, has announced formation of United Helicopters, Inc., which will produce rotary-wing aircraft for private and commercial uses.

FIBRE MILK CONTAINERS—American Can Company is expanding facilities at Santa Fe Avenue and 49th Street in Los Angeles at a cost of a million dollars. When complete the additions will double the present capacity of the milk container section and its warehouse area. An employees' facilities building is also being built.

GENERAL ELECTRIC—Further expansion is planned by General Electric Company on the 12 acre site they purchased in Anaheim. The new project will be devoted to the manufacture of Glyptal alkyd resins for paint base and will operate as part of G. E.'s Chemical Department's Resins and Insulation Materials Division. Ground will be broken Jan. 1. A process building, storage building, two pump houses, a boiler house and gate house are included. Total floor area is 35,000 square feet.

INDUSTRIAL EXPANSION—Pacific Coast Aggregates, Inc., is expanding facilities, including a new plant near Pleasanton, a new warehouse, sand, gravel and cement batching units at the foot of 92nd Avenue, Oakland, at a cost estimated at $1 million.

SOAP FACTORY—Liqua-Zone Company has broken ground for its $100,000 soap factory at the northeast corner of Tully Road and Healey Way, near the County Fair Grounds, San Jose. Latest automatic equipment will be installed.

PLASTIC COMPANY—Southern California Plastic Co., 2773 N. Broadway, Eagle Rock, is building an office and factory building, 100 x 120 feet in area, at 1805 Flower Street, Glendale.

DRUG EXPANSION—Brunswig Drug Company is building a reinforced concrete and brick office and warehouse building costing $1,200,000 at Santa Fe Ave. and 49th Street, Vernon. The building will be two stories, 300 x 350 feet in area, with bulk storage and liquor department on the first floor, and offices, merchandise display room, cafeteria, restrooms and shelf package storage on the second floor.

PLANT ADDITION—The Merced Dairy & Ice Co., 753 16th Street, Merced, plans construction of a plant addition and fireproof storage room for cars, at a cost of $100,000.

PRINTING PLANT—Pacific Press Publishing Co., Mountain View, is building an addition and remodelling its printing plant building at a cost of $100,000. The building will be of reinforced concrete and steel construction, one story, 75 x 300 feet, glass brick, steel sash and composition roofing.

CANNING PLANT—Allied Canning Co., 4100 Whiteside Avenue, Los Angeles, plans construction of an addition to its canning factory which will consist of one-story and mezzanine wood stud and plaster, 40 x 104 feet in area, wood trusses, composition roof, steel sash, overhead and sliding doors, concrete floors and skylights.

WAREHOUSE—Southern Equipment Company, 668 Third Avenue, San Diego, will construct a one-story, concrete and steel warehouse building at Colton and Crosby Streets, which will be 200 x 300 feet in area. It will also contain offices.

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JOHNS-MANVILLE—The present transite pipe factory at 223rd Street and Alameda Blvd., Los Angeles County, of Johns-Manville, 816 W. 5th Street, Los Angeles, will be expanded at a cost of $700,000. A warehouse building and addition are included.

NEW POWER LINE—A $200,000 power line will be constructed to Hayfork by Pacific Gas & Electric Co. to facilitate mining operations in areas between Weaverville and Hayfork.

GASOLINE REDUCTION PLANT—General Petroleum Corp., 417 Montgomery Street, San Francisco, has started construction of a 30 million cubic foot gasoline reduction plant at Burrel.

MEAT PACKING PLANT—Piute Packing Company has begun construction of a meat packing plant costing $225,000, 200 x 200 feet, with wood and steel roof trusses, concrete floors, conveyors, track work, cork and redwood bark insulation, sewage disposal system, etc., at Bakersfield.

WAREHOUSE—Construction of a steel frame warehouse, 50 by 300 feet, and frame and stucco office building (40 by 50 feet), with steel roof trusses, steel sash, concrete floor, mission tile roof, plumbing, electric wiring, at a cost of $50,000, has begun for Drake Steel Supply Company, 10,660 South Alameda Street, Los Angeles, at Fresno on Highway 99 near Clinton Avenue.

FACTORY—Working drawings for a three-story light manufacturing building, 60 x 140 feet, to be built at 1119 S. Los Angeles Street, Los Angeles, are being completed for Maler Bros. Plans call for reinforced concrete construction and costing $180,000.

NORTHERN PACIFIC—Construction of an extension of ice house facilities in Pasco at an estimated $200,000 has begun for the Northern Pacific Railroad Co.

CLAPP FOODS ADDITION—Harold Clapp Foods, Inc., 955 Newhall Street, San Jose, plans an addition to its building at a cost of $100,000.

TILE FACTORY—Pomona Tile Manufacturing Co., 629 N. La Brea Ave., Los Angeles, plans construction of a concrete factory building at 11,047 Van Owen Street, Van Nuys District, 100 x 600 feet in area, at a cost of $130,000.

WAREHOUSE—Smart & Final Company, 754 S. Alameda Street, Los Angeles, has started construction of a reinforced concrete warehouse, to cost $70,000.

SOUTHERN PACIFIC—Freight warehouse at 1281 N. Spring Street, Los Angeles, is being remodeled at a cost of $70,000, for the Southern Pacific Co. The work consists of replacing wood floors, 2nd platform with concrete on dirt fill, enlarge door openings and remodeling offices on second floor.

WAREHOUSE—B. Hayman Co., Alcoa and Leonis Blvds., Vernon, plans construction of a one-story office and agricultural implement warehouse, 170 x 188 feet in area, costing $94,000.

FACTORY—Boyle Midway, Inc., plans construction of a factory building to cost $114,500, at the corner of 50th and Gifford Streets, Vernon.

ICE PLANT—Couture & Car, Huron, have started construction of their reinforced concrete and frame and structural steel ice plant, and structural steel and corrugated steel warehouse, costing $200,000.

BEVERAGE PLANT—Diablo Beverage Co., 55 E. 2nd Street, Pittsburg, plans construction of a one-story brick and steel warehouse, 100 x 150 feet, with facilities for office space, garage, etc., at a cost of $60,000.

OFFICE BUILDING—Earle M. Jorgensen Company, 10,510 S. Alameda Street, Los Angeles, has begun construction of their reinforced concrete one- and part two-story office building. Structure will be T-shaped, containing approximately 14,000 square feet of space. Cost is estimated at $125,000.

WAREHOUSE AND OFFICE—Cornet 5-10-25c Store, 330 S. Fair Oaks Avenue, Pasadena, plans construction of a three-story and basement office and warehouse building costing $465,000 at the corner of Arroyo Parkway and Bellevue Avenue, of brick and concrete construction, approximately 123 x 159 feet in area.

STEEL WAREHOUSE—A concrete, wood and structural steel warehouse is being erected for Slakey Brothers, North "C" Street, Sacramento, at a cost of $116,300.

FACTORY—Chicago Metallic Manufacturing Co., will build a factory and office building at the corner of Boyle and Leonis Avenues, Vernon, of reinforced concrete construction, wood trusses, composition roofing, cement floor, car door height, office portion two-stories high, at a cost of $82,000.

GILMORE EXPANSION—Gilmore Steel & Supply Co., 4820 Santa Fe Avenue, Vernon, will build a warehouse and office costing $70,000. It will cover an area 75 x 360 feet, with a wing 75 x 180 feet, steel frame construction, one brick wall, corrugated iron roof and sides, cement floor and steel sash.

HARDWOOD PLYWOOD PLANT—Davidson Plywood & Veneer Co., 2435 Enterprise Street, Los Angeles, has purchased a three-acre site from Lockheed Aircraft Corp. for erection of a factory producing hardwood plywood.

WOODWORKING PLANT—Toledo Manufacturing Co., 4425 East 14th Street, Oakland, is erecting a woodworking plant at the foot of High Street, Oakland.

CALIFORNIA TIN—California Tin Corp. has been organized to mine tin at the Cajalco deposit in Riverside County. Head offices have been established at 602 Fifth Street, Northwest, Washington 1, D. C.

AMES EXPANSION—W. R. Ames Company, 150 Hooper Street, San Francisco, plans a $200,000 expansion to include construction of a factory costing in excess of $100,000, for manufacture of sheet metal products.

CAKES AND COOKIES—Mother's Cake and Cookie Company plans construction of a $300,000 plant on the east side of Seminary Avenue, Oakland.

COTTAGE CHEESE FACTORY—Golden State Company has purchased 26 acres in Gridley for construction of a two story cottage cheese plant costing $500,000. A new road and spur track will be built.

FIBREBOARD PRODUCTS EXPANSION—A $1 million development for modernizing its paper mill and converting its plant at Antioch, Calif., to more efficient production of cartons and shipping containers, is under way by Fibreboard Products Co. Program calls for addition of high-pressure boilers and two turbines in the power plant. Glass Containers, Inc., a subsidiary of the company, has started construction of a new Northern California plant at Antioch to supply demands of food processors, wineries, beverage firms and breweries. The plant will occupy 20 acres. Executive offices of the company are in San Francisco.

FLETCHER AIRCRAFT—Fletcher Aircraft Corp. has purchased a 20-acre site adjacent to Ontario Municipal Airport. A new $250,000 plant will be built; one-third of its capacity will be devoted to the manufacture of aircraft. Other lines planned for production are aircraft equipment, sporting goods and office equipment.

LIGHTS, INC., SHIFTS—Lights, Inc., Alhambra, has shifted operations from Sacramento to Alhambra, where it will manufacture heavy duty electrical equipment including vapor lights, welding rod holders, general duty plugs and sockets.

NEW LOCATION—Cardox-Western, Inc., subsidiary of Cardox Corp., has moved its plant and general offices from 748 East Washington Blvd., Los Angeles, to new and larger quarters at 151 North Avenue 19, Los Angeles 31, Calif.

PURCHASE—The Caram Manufacturing Co., Los Angeles, producers of molded rubber products and industrial adhesives, has been acquired by J. W. Perkins, former executive vice-pres. of Arrowhead Rubber Co., and J. Campbell Johnson.

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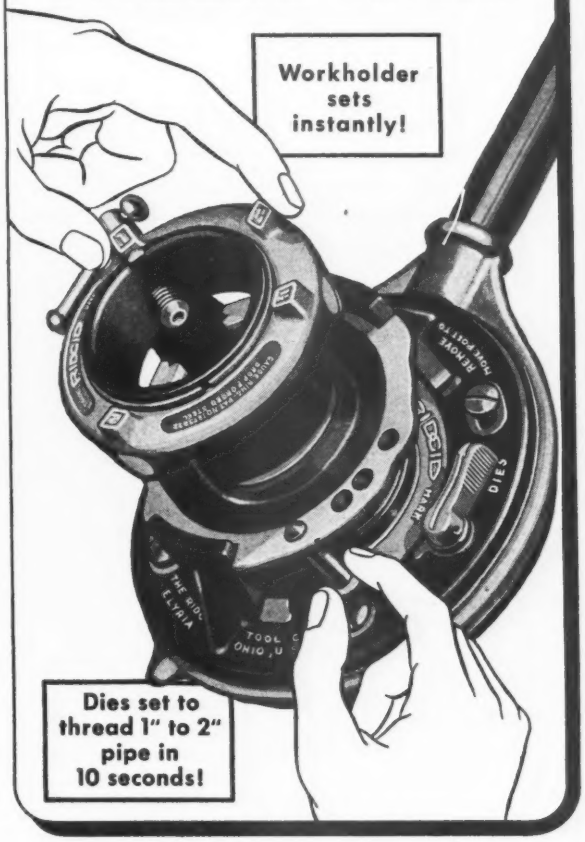

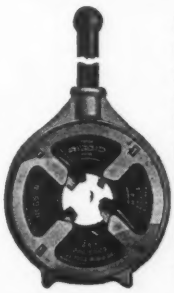

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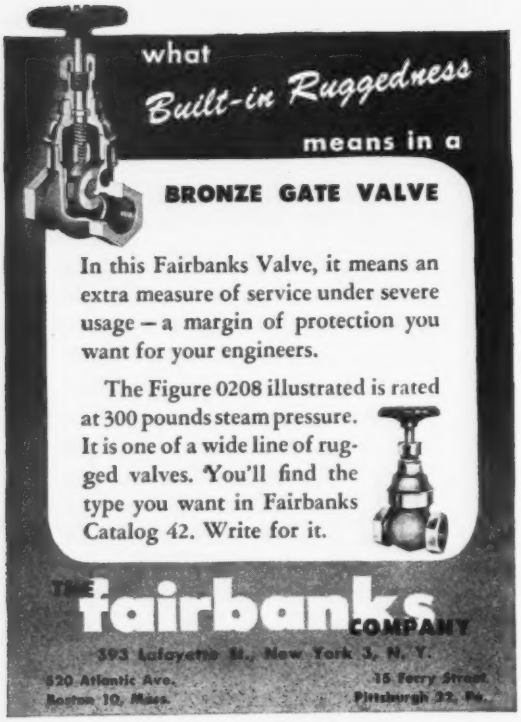
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THE WEST ON ITS WAY

TOY COMPANY—Arrow Toy Corporation plans a new factory at San Jose to make patented toys.

PREFABRICATED HOUSES—Basalt Rock Company, Napa, plans expansion program which includes manufacture of prefabricated houses which are semi-demountable structures of light steel, wood and basalite.

NEW SAW MILL—Pickering Lumber Corp., Standard, is preparing plans for construction of a $150,000 saw mill.

COLORADO

PIPE LINE—The Standard Fire Brick Company has started construction of a new clay pipe plant costing about $150,000 to replace one destroyed by fire several months ago.

ROCKY MOUNTAIN ARSENAL—The Rocky Mountain Arsenal in Denver will be retained by the Army with the possibility that parts of it will be leased, and a portion of the plant will be maintained on a standby basis.

"JERSEY" EXPANSION—As a first step in its expansion program, The Standard Oil Company of New Jersey, through its subsidiary, Carter Oil Company, will add one story to the present Powerine Building at 14th and Tremont Place in Denver. The addition will cost around $50,000 or $60,000.

BLUHILL FOODS EXPANSION—Officials of Bluhill Foods, Inc., Denver, have announced an expansion to cost $750,000, acquiring a large food packaging and manufacturing plant at Santa Ana, Calif., with 40,000 square feet of floor space, and addition of a large cheese-making and cold storage plant at 711 South Broadway. A warehouse and garage fronting on Broadway has just been completed.

NEISNER TO BUILD—A strictly modern four-story and basement retail store will be built for Neisner Brothers' store chain on the site of the building now occupied by the Denver branch of the firm at Sixteenth and Curtis Streets. The new building will cost a half a million dollars.

IDAHO

GENERAL ELECTRIC WAREHOUSE—The General Electric Supply Corp., will construct a $65,000 office and warehouse building at Boise.

COLLEGE EXPANSION—A million dollar expansion program is planned at the College of Idaho, with construction of two new dormitories at a cost of $300,000, listed for immediate construction.

NEW CONCERN—The Idaho Paper Box Co., Inc., of Caldwell, has filed articles of incorporation, and lists capitalization at $100,000.

CONSTRUCTION PROGRAM—Idaho Power Company plans a construction program involving approximately $4 million for generating and transmission facilities in addition to farm extension lines. The plant will include a hydro-electric generating station at the company's Upper Salmon site in Snake River canyon south of Hagerman and a 138,000 volt transmission line from Hagerman Valley electric plants to Boise and Emmett. Substations or switching installations will be built at Lower Salmon, Boise, Emmett, and Mountain Home. The company just recently bought out the electric power plant and lines of the Jordan Valley Electric Co-operative, Inc., in eastern Oregon.

MONTANA

MONTANA OIL FIELD REVIVED—Cat Creek, Montana's pioneer oil field that yielded $25 million in high gravity crude may be staging a comeback. The fourth Ellis sand producer, the Schrock-Fifer Well, "came in" early in December. It is a gusher flowing 288 barrels daily of 51-gravity oil. Activity is also mounting on other leases in the area.

LUMBER COMPANY SOLD—The Northern Lumber Co. of Billings, a wholesale concern, has been purchased by Lumber Dealers, Inc., a Denver company. Grant Boorman will continue as manager.

ELECTRIC CO-OP BUYS PLANT—Sheridan County Electric Co-op., Inc., has purchased a light plant at Westby and offices have been set up there.

COAL MINE SOLD—Anderson Bros. of Lewiston have purchased the Jurasek coal mine above Lehigh.

TO MANUFACTURE SOUVENIRS—Haynes, Inc., Bozeman, has filed incorporation papers. The company, capitalized at $50,000, will manufacture souvenirs for sale in Yellowstone National Park. Incorporators are Jack Ellis Haynes and Isobel Haynes, Yellowstone Park, Wyo., and Elliott W. Hunter, Bozeman.

NEW PRINTING CONCERN—Reporter Printing & Supply Co. has been incorporated for $50,000. It will have headquarters at Billings and will engage in printing, engraving, publishing.

NEVADA

TONOPAH MILLING COMPANY TO RESUME—Plans have been completed for early spring construction at the main Mizpah mine of the Tonopah Milling Company of Nevada, of a 100-ton cyanide mill at an estimated cost of $150,000. The new plant will be equipped with a modern sampling works and will be so constructed that capacity can be doubled at any future time.

KERNICK MILLING REOPENS—The first unit of the old Kernick mill at Sodaville, recently rebuilt, is treating approximately 100 tons of company and custom ore daily.

RENO AIR BASE MAY BE RETAINED—The Army is making a study to determine whether the Reno Army Air Base may be retained. The base is almost entirely owned by the government and represents a considerable investment.

NEW MEXICO

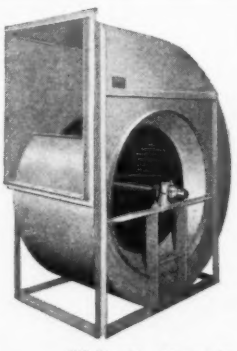
RADIO STATION—Dorrance D. Roderick, El Paso, Tex., has been granted permission for a radio station at Silver City. Permit provides for unlimited broadcasting time.

COAL MINE CHANGES HANDS—The Gallup American Coal Co. property has been purchased by the Gallup Gamerco Coal Co., a local syndicate, of which P. J. Vidal is president. The company plans to keep the mine operating for benefit of employees and the community.

SCIENCE AND MATHEMATICS—Science and Mathematics will be fostered in a new $1 million building to be built by the University of New Mexico, at Santa Fe. Six new buildings are planned at the University including an auditorium to seat 3,000, at a cost of $50,000; dormitories for men and women, costing $800,000; a social studies building, costing $250,000; and a Naval Science building costing $150,000.

OREGON

NEW SAWMILL—A sawmill with 20,000 board feet daily capacity will be built by E. O. Lessard, Portland, near Gales Creek, in Washington county. Lumber will be disposed of in St. Helens.



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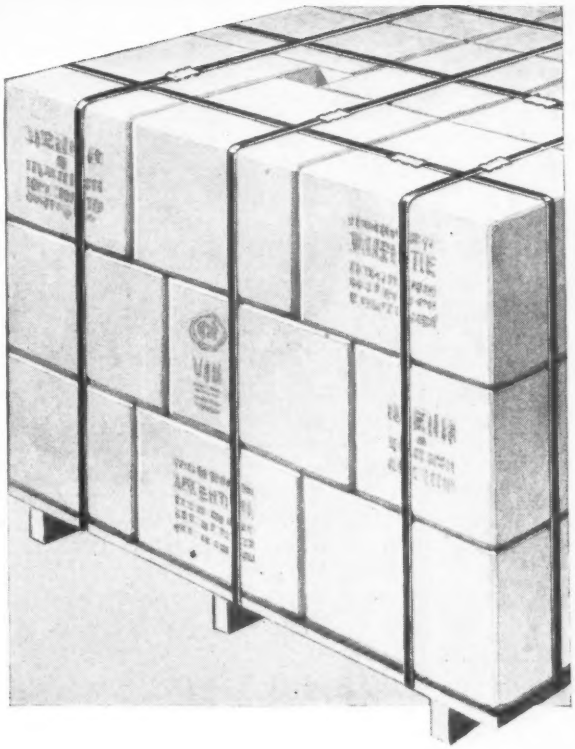

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LOS ANGELES 15, CALIFORNIA

THE WEST ON ITS WAY

ASPHALT REFINERY—The California Asphalt Corp., 225 Bush Street, San Francisco, is taking bids on its asphalt refinery at a total estimated cost of $1 million at Willbridge, Ore. Included are construction of buildings, pipelines, sewers, tankage, electrical system, concrete work and paving, as well as processing equipment, power plant, laboratory, and a fractionating tower.

NEW BUILDING FOR DISTRIBUTOR—The Eoff Electric Company will remodel the three-story brick building at the northwest corner of N.W. 10th Avenue and Glisan Street, Portland, which it recently purchased from Willamette University. The company handles motors and traffic appliances as well as home appliances. The new building will be headquarters for the company which will move from Salem.

PROCESSING PLANT PLANNED—Forrest Greene, 521 N. E. Killingsworth Street, Portland, has started construction of a 90 by 100 foot tile and concrete meat-cutting, meat and vegetable processing plant and frozen food lockers at 7503 N. E. Killingsworth Street, Portland.

LUMBER COMPANY CHANGES HANDS—J. Herbert Bate Co., New York, has purchased the Bowman-Hicks Lumber Co., one of the largest Ponderosa pine operations in Oregon at Wallowa. Sale also includes a mill, with a daily cut of 110,000 board feet and several thousand acres of choice pine, fir, and Western larch.

NEW CONCERN—The American Steel Warehouse Co., newly organized Oregon concern, has purchased the Portland firms of Robertson Heavy Hardware Co. and Jacobs & Gile, Inc., at a total cost of $265,000 and has completed its three-story warehouse and office building at 425 N. E. Ninth Avenue.

DAIRY PLANT—The Sunshine Dairy, 227 N. E. 18th Avenue, Portland, plans construction of a dairy plant at 21st and N. E. Oregon Street, which will be of reinforced concrete, 100 x 200 feet in area, and costing $93,995.

DAIRY PLANT—Henry Freeman, Corbett, plans construction of a 50 x 100 ft. livestock building, and a refrigeration plant and dairy, 34 x 70 ft.

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POLE TREATING PLANT—Construction of a $100,000 lodge-pole pine treating plant in the Bend area to serve REA power line builders and other pole users is being planned by the Wood Products Co., American Bank Bldg., Portland.

NEW DOCK TERMINAL—Commission of Public Docks plans rehabilitation and repairs of its Terminal No. 2 at Portland, at an estimated cost of $100,000.

PGE SLATES EXTENSIONS—Substantial improvements in Portland General Electric Company's primary distribution system in areas west of Portland, with an expenditure of about $2½ million for the next three years for improvement and extensions are in the offing.

JARMAN-WILLIAMSON GOES INTO PRODUCTION—Production has started at the new Jarman-Williamson factory, where about 2,000 new golf carts are planned to be made a month. The company has about 10,000 square feet of space and is equipped for volume production at its plant at 601 N. E. 28th Avenue, which is converted from a former war plant.

TWO NEW LUMBER PLANTS—Baker Wood Products and Burnt River Lumber Company have commenced peacetime operations in Baker. Baker Wood makes molding, remanufactures lumber and cut-up lumber. The Burnt River Company is resawing and planing lumber but is not yet at full production.

NEW COMPANY—Light Metals & Sales Co., 1500 S. E. Gideon Street, Portland, has a magnesium foundry in operation and die castings.

PLANING MILL—Great Northern Casket Co., 3604 S. W. Macadam Road, Portland, plans construction of a 100 x 200 ft. planing mill; 80 x 100 ft. cut-up plant; 4 dry kilns.

MATTRESS COMPANY—Sealy Mattress Company, 2337 N.W. York Street, Portland, plans a $50,000 two-story concrete addition, 100 x 100 feet, to its factory.

UTAH

SUGAR EXPANSION—Utah-Idaho Sugar Company, Salt Lake City, will expand its Toppenish, Washington, plant by 20 per cent for the 1946 season.

PLASTIC PLANT—Salt Lake's first plastic manufacturing plant is in operation. Owned and operated by six Salt Lake men, the Sunset Plastic Co., is located at 2223 Highland Drive. John R. Jones is production manager. Company will serve as custom moulders for manufacturing besides manufacturing items under their own name.

FOOD PLANT—Thrifty Foods has completed its food processing and packaging plant at Salt Lake City. The new concern will operate in Utah, Colorado, Wyoming, New Mexico and Idaho, and will probably open a potato chip plant in Utah in the near future.

TO MAKE BUTTER—The Cache Valley Dairy Association, which now operates the second largest Swiss cheese factory in the United States, at Logan, is installing new sanitary and modern butter cutters and wrappers in its newly-formed butter manufacturing division.

LOCKER PLANT—West Jordan Lockers and Grocery Co., Midvale, will build a locker plant at 163 North Main Street, with both lockers and quick-freezing equipment.

REHABILITATION PROGRAM—Utah Copper Company, headed by D. D. Moffat, Box 1650, Salt Lake City, plans a $3½ million rehabilitation program at its mines at Bingham Canyon and its Arthur and Magna mills at Garfield and Magna, Utah. Program includes mine development and improvement and replacement of worn mine and mill equipment.

NEW OXYGEN PLANT—Acetylene Company of Utah, 640 North 3rd West Street, Salt Lake City, has its new oxygen plant in operation. It has a daily capacity of 90 cylinders of 99.5 per cent pure oxygen with each cylinder of 250 cubic feet capacity. Don S. Jenkins is partner and manager.

WASHINGTON

MALT PLANT—Great Western Malting Co., Vancouver, is remodeling and enlarging its present plant at an estimated cost of $800,000.

WAREHOUSE EXPANSION—Pacific Building Materials Co., Vancouver, has enlarged warehouse facilities by 80 x 110 feet.

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THE WEST ON ITS WAY

PIER FACILITIES TO BE ENLARGED—Piers, lockers and warehouse facilities at the Port of Seattle's fishermen's terminal development at Salmon Bay will be expanded in the spring at a cost of $250,000. More than 1,000 fishing boats may be accommodated instead of the present 350 when facilities are completed.

NEW BUILDING—Construction has started on a new repair shop and garage costing $50,000 for Grange Service, Inc., at Spokane. The building will be 100 feet square, constructed of concrete and concrete blocks with steel trusses spanning the full 100 feet, providing a clear work area for efficient operation.

FRUIT PACKING PLANT—A new, two-story fruit packing plant and adjacent warehouse will be erected next spring for John L. Gillespie at Veradale, to replace the property destroyed in a $100,000 fire. It will be built three blocks south of the present site.

FURNITURE PLANT—Westwood Furniture Company has started work on its new $120,000 furniture plant on S. Lawrence Street between Center Street and S. Tacoma Way, Tacoma.

BETHLEHEM BUYS OUT PACIFIC COAST FORGE—Bethlehem Pacific Coast Steel Corporation has acquired the plant and business of Pacific Coast Forge Company of Seattle, and will operate it as a part of Bethlehem Pacific Coast Steel Corporation.

FISH PROCESSING PLANT — The Deep Sea Products Co., of Seattle, plans to build a fish processing plant on the Old Loggie Mill site in Bellingham. The plant, to cost $100,000, includes 250 feet of docks for boats to discharge cargoes. Bottom fish will be handled principally.

WAREHOUSE—D. N. & E. Walter Co., 821 Howell Street, Seattle, has completed plans for a $55,000 two-story addition to its warehouse.

DAIRY PLANT—Charmed Land Dairy Products at N. 85th and Greenwood Avenue, Seattle, plans construction of a plant costing $75,000 to process dairy products. It will be 150 x 65 feet in area and will occupy a site 230 x 103 feet in size. Of masonry construction, it will be one-story in height. It will house a 60-horsepower steam boiler for milk processing and two 20-ton compressors for refrigeration.

PRODUCTION TO START—Walker Co., 2116 Western Ave., Seattle, has begun manufacture of farm equipment. The company's new plant has 7,000 square feet of floor space.

DIATOMACEOUS EARTH—Dia-Cousti-Lite Company has begun mining near Ephrata with bulldozers. A processing plant worth $75,000 has been installed, and three shifts go into operation soon.

NEW WHOLESALE GROCERY CONCERN — Okanogan Grocery Company, capitalized at $250,000, has been organized to take over and operate the Okanogan Milling Company wholesale grocery business at Okanogan. E. K. Hove, formerly gen. mgr. of C. E. Blackwell & Co., Inc., will be general manager of the new concern.

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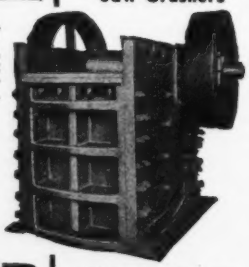

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TURKEY PROCESSING UNIT—The Washington Farmers' Cooperative Association has completed construction work on its new $100,000 turkey processing unit and farm plant at Walla Walla.

NEW PLANT FOR WASHINGTON PACKERS—Washington Packers, Inc., has purchased 16 lots in the northern part of Centralia, abutting the Grays Harbor line of the Northern Pacific Railroad, as a site upon which to start construction of a modern cannery and freezing plant. Plans are for a canner building to ultimately measure 280 by 60 feet. Initial construction will be a building 160 feet by 60 feet. The unit will also include the packing firm's receiving station and chilling plant. It will be equipped to handle canning and processing of peas, carrots, beets, corn and all types of berries. Plans are under way to can Yakima peaches. H. D. Roster, Sumner, is president of Washington Packers. Other officers include E. D. Guptil and L. O. Cochrane, vice-presidents, both of Sumner; George Maloney, Alder, secretary; E. B. Poe, Puyallup, treasurer, and Harry D. Johnson, Sumner, general manager.

GOLCONDA RESUMES DEVELOPMENT WORK — Development work will be carried out on the 1000-foot level in the Mayflower vein on property of Golconda Mining Company in the Coeur d'Alene district, Judge Albert H. Featherstone, Wallace, Idaho, reports. The company also operates a property in the Lolo district in Idaho County, Idaho. Its custom mill is operating at full capacity in the Mullan, Idaho, district.

MINES DEAL APPROVED—The superior court, Spokane, has approved the purchase of the Gertie Mining Company and the Marsh Mines Company by the King Mining Company, Spokane.

SURPLUS PROPERTY BOARD TO SELL—The Electro-Metallurgical plant at Spokane is approved for sale or lease by the Surplus Property Board "on condition that it be kept available for magnesium production." The Spokane plant is valued at $16,100,000.

ELECTRIC CO-OP EXPANSION—The Walla Walla Electric Cooperative, Inc., has been granted a franchise to construct transmission and distribution lines from the Bonneville substation to College Place and to Walla Walla city limits. The franchise was granted over objection by the Pacific Power & Light Company. Permission to construct distribution lines within the city limits of Walla Walla is still pending.

WYOMING

SPONGE IRON PLANT REOPENED—The U. S. Bureau of Mines' Laramie sponge iron plant has resumed operation. Work will be limited to making changes in the plant, at first.

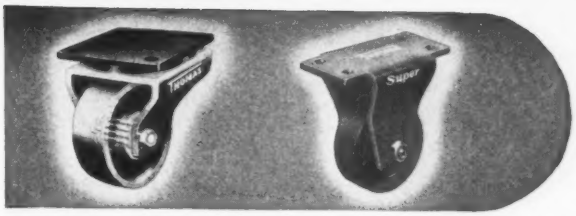
QUICK-FROZEN PLANT—The Big Horn Canning Company of Cowley plans construction of a quick-freeze plant which will freeze 2 million pounds of vegetables a year.

QUEALY AND PRAFF FAMILIES BUY OUT WESTERN OIL CO.—Merger of the Western Oil Refining Company with the P. and Q. Company, Kemmerer, is reported. The interest of Joseph A. Minton, general manager of the Western Oil Refining Company, was purchased by the new concern which will be known under the name of Western Oil Refining Company. Minton has resigned as general manager and will be replaced by Carl Praff as production manager. Western was organized by Susan J. Quealy and Minton in 1943 and took over operation of the North La Barge oil field unit area. The company operates 10 wells in the area and also controlled the south portion of the Piney oil field. The P. and Q. company, organized in 1945 by Susan Quealy and Carl Praff, has been operating in the La Barge and Piney districts. The purchase leaves the Quealy and Praff families as sole owners of Western.

SEEK OIL—Two wells are planned for drilling early in the year in the Big Hollow oil field, Laramie. The Baxter Oil Drilling Company and the Oklahoma Oil Company both plan wells. A well drilled in the Big Horn basin, Worland, drilled by the Husky Refining Company at the Half Moon field in Park County, came in and tested 35 barrels of oil a day.

RURAL ELECTRIFICATION—Approval has been given to the Sheridan-Johnson Rural Electrification Association for a power distribution system to cost $500,000, to serve rural inhabitants in parts of Sheridan, Johnson and Campbell counties.

TO CONTINUE OPERATIONS—The Frannie, Wyo., Gas Company has been authorized by the Federal Power Commission to continue operating two gas transmission lines in Wyoming and Montana. Consumers in Frannie and Deaver, Wyo., and Warren, Mont., are served by the two lines. One eight-mile line extends from the Polecat gas field in Park County, Wyo., to the Montana-Wyoming line. The other is a five-mile connection to the Yale Pipeline company's pumping station near Warren.



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Use them for your hardest, toughest jobs. The Super Swivel fork is formed from one piece of ¼" steel plate, offset for added strength. Ball race cups and King bolt welded in place and all moving parts are hardened to move freely and resist wear. Send for complete literature.

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WESTERN TRADE WINDS

NEWS ABOUT THOSE WHO DISTRIBUTE AND SELL INDUSTRIAL EQUIPMENT AND MATERIALS

Albert P. Hahn, until recently a Lt. Comdr. in the Seabees, has joined the sales force of the **Brown-Bevis Equipment Co.**, 4900 Santa Fe Avenue, Los Angeles. He will specialize in construction equipment following the lines of both his wartime and peacetime experience. He is a member of the A.S.M.E., and was graduated from Stanford University in 1928. While with the Seabees he was with both construction and repair departments.

Other additions to the **Brown-Bevis Equipment Co.** staff are: **Charles E. Sell** who joins the sales force. Sell was formerly with the Lang Company and Lund Company, Salt Lake City, and while on war service was with the ordnance repair department. **Brette Brown**, formerly with Keystone Tool & Supply, will specialize on gasoline and diesel engines and electric motors. **Herb Matthews** formerly master mechanic and service mgr. for Tri-State Equipment Company, Memphis, Tenn., joins staff as field service specialist.

Lt. Col. John J. Winn, Jr., just back from service, has been named industrial analyst and market research specialist for First National Bank, Portland.

The **Baker Steel and Tube Co.** is now located in its new warehouse at 1400 Calzona Street, Los Angeles 23, Calif., just south of the 3700 block on East Olympic Blvd. The property houses the sales offices of the firm as well as providing additional warehouse space for steel tubing.

The Guardian Company 2130 W. Jefferson Boulevard, Los Angeles, headed by **John W. Dee**, has been appointed Southern California distributor for the **Chicago Eye Shield Company.** Mr. Dee has extensive safety engineering and sales background.

John W. Dee

Engel Aircraft Specialties Co., Escondido, Calif., is manufacturing manifolds, cowls, spinnings, wheel parts and speed rings for the commercial Aviation field.

R. D. Van Houten has joined the general manager staff of **Fire Appliance Company**, San Jose, Calif. He is vice pres. and general sales manager of the combined operations of Fire Appliance Company and Campbell and Budlong, Inc., an agricultural manufacturing firm. He has wide experience as sales consultant, and served in various capacities with Remington-Rand, Inc.

W. Randolph Green has been made geological development agent at Spokane for the Great Northern Railroad.

Robert L. Skov has been appointed sales-manager in the west coast district for the **Cellulose Products Department of Hercules Powder Company**, with headquarters in San Francisco. He has been with Hercules since May, 1934 and is a member of both sales and engineering departments. He is a graduate of the Civil Engineering School of the University of California.

Four additions have been made to the staff of **Photo and Sound, Inc.**, San Francisco producers of industrial and sound recordings, 153 Kearny Street, San Francisco. They are: **Col. Norman V. Carlson, USA**, who returns as business manager; **Commander Fred S. Crawshaw**, general sales and promotion manager; and Naval Reserve Lieutenants **Jerome W. Kintner** and **Hugh D. Brown**, account executives.

The company will move into new quarters at 141 New Montgomery Street after the first of the year.

• Building plans of Photo & Sound, Inc., capture the attention of Col. Norman V. Carlson, new business manager, M. S. Jacobus, president, and Fred S. Crawshaw, the firm's sales and promotion manager.

Pacific Coast tire sales organization of **U. S. Rubber Co.**, announces changes in personnel: **D. W. Walsh**, Pacific Coast sales manager; **G. R. McNear**, former manager, will be transferred to New York to assist in over-all sales activities of tire division. Walsh will have headquarters in the Los Angeles tire plant. **W. R. Kneass** is the new Pacific Coast U. S. tire sales manager, and will have his headquarters at Los Angeles.

R. L. Robinson has been named sales manager for the aggregates division, **Pacific Coast Aggregates, Inc.**, with headquarters in San Francisco. **J. J. Penrose** will be asst. sales manager in charge of aggregates and material sales in Sacramento, and **E. R. Muzio** will be assistant sales manager in Stockton. **B. F. Siegle** is chief sales clerk for the division in San Francisco.

Paul C. Van Cleave has been appointed manager of rolled products sales, **Colorado Fuel & Iron Corp.**, Denver. He joined the sales department in 1934. In 1940 he was named assistant to the sales manager which position he held until joining the Army Air Corps in 1942.

Jim H. Berry

Jim H. Berry, ex-Captain in the U. S. Marines, has just been appointed new district sales manager in charge of sales in Northern California for **Pope & Talbot, Inc.**, lumber division, 461 Market Street, San Francisco. He had been with Pope & Talbot from 1938 to 1943 when he entered the Marine Corps.

Moore Equipment Co., Stockton, will open San Francisco Bay Area headquarters at 28th and Cypress Streets, Oakland, where the company's new building is now under construction. The company manufactures road and farm machinery.

Robert P. Moser has been named district advertising and promotion manager for **General Electric Company's** apparatus department at Portland. His district includes Oregon, Washington, and northern Idaho.

Lyle Dagg, formerly with Harris Supply Co., Portland, is the new Portland office manager and inside salesman for **Frank Groves Co.**, San Francisco. Other appointments: **Charles Sullivan**, formerly with U. S. Rubber Co., will specialize in mechanical rubber goods covering the states of Oregon and Washington; and **E. A. Thirkell** is manager of Portland branch.

The company has added firebrick and high temperature cements of the Vitrafrax Corp., St. Louis, to its line. The new unit is headed by S. S. Davis, formerly sales mgr. for Federal Refractories.

H. Y. Satterlee has been appointed sales manager of **Pacific Engineering Corporation**, Los Angeles. He has been associated in the aviation field in both management and sales divisions and has been with Keystone, Fairchild, Curtiss, and Edo Aircraft Corporations.

W. J. Hennessy has been named sales manager of the **Machine Tool Division, Machinery Sales Company**, with headquarters in Los Angeles. **C. H. Bradford** has been promoted to sales manager of the supplies division to fill the vacancy created by Hennessy's promotion. Both men have been with Machinery Sales Company for a period of years.

Sam Barnes has been named manager of the new Oakland office of the **George M. Philpott Co.**, San Francisco, which has been established at 3255 San Pablo Avenue. Barnes is in charge of the bearings division as well, and **Floyd Newton** is in charge of the office.

Herb Mierswa has been made manager of the Trade Machinery division of **Western Crown Cork & Seal Corp.**, San Francisco, where he will make his headquarters at the company's San Francisco general offices. He has been with the company for 20 years.

H. Norman Miller

H. Norman Miller, electrical engineering graduate of Oregon State College and member of industrial sales staff of **Westinghouse Electric Corporation,** Portland, for 19 years, has been made manager for the company in the Portland area. He succeeds **L. G. Fear,** who will act as the company's special representative in both Seattle and Portland areas.

LeRoy Barrett has joined **Ellinwood Industries,** Los Angeles, as executive engineer. He will work on improving and simplifying the Cat Line of garden tractors.

Westinghouse Electric Supply Company has opened new branch headquarters at 1930 Pacific Avenue, Tacoma. The new headquarters provide 18,000 square feet of space.

Harry P. Wolf and **Anne Latourette Wolf** have begun business under the name of **Steel Products Company of Oregon, Ltd.,** 4000 N. W. St. Helens Road, Portland, as steel distributors. They will deal in structural steel, plates, bars, sheets, shafting, and boiler tubes. Wolf was formerly manager of Pacific Steel Warehouse, Portland.

William P. Blackmon, former Pacific coast manager for **National Biscuit Company,** has been appointed assistant sales manager for the company. He succeeds **Phil J. Swearingen,** who retired Oct. 15.

Robert T. Kain, formerly Lt. Comdr. in the Navy, has been appointed San Francisco district manager of the Industrial Products Sales division of the **B. F. Goodrich Co.,** succeeding **H. A. Schulz,** who retired after 30 years with the company.

Robert T. Kain

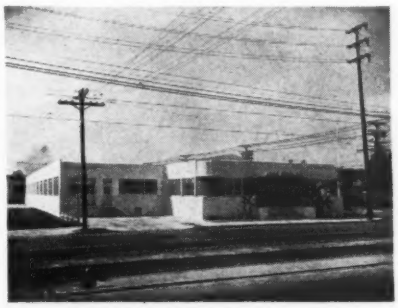
Ziegler Steel Service Co. has established a warehouse at 1560 N. Ditman, Los Angeles 33, Calif., where it handles steel sheets, strip and light plate in hot rolled, hot rolled pickled and oiled, cold rolled and galvanized finishes. Thicknesses range from ¼-inch to 30-gauge, and production shearing facilities will be available shortly.

Changes in personnel in the western division of **Shellmar Products Co.,** Mt. Vernon, Ohio, and South Gate, Calif., are as follows: **Ray E. Henning** joins the firm as director of sales; **O. D. Carlson** will devote full time as general manager; **H. S. Dunkel** transfers from San Francisco to South Gate as jobber sales manager; **H. R. Peterson** transfers from Los Angeles to San Francisco as assistant director of sales; **W. R. Miller** replaces Peterson at Los Angeles; and **E. C. Gripenkerl** will be salesman for San Diego, all of Arizona and New Mexico as well as his present territory. Henning came from the Cellophane division of E. I. du Pont Nemours & Co.

Charles E. Haney and **Jerome Leva** have opened a custom brokerage and foreign freight forwarding business at 607 Porter Building, Portland, for **Frank P. Dow, Ore., Ltd. William D. White** is associated as partner.

Eugene W. Shafer has joined the San Francisco staff of **Wank and Wank** to direct industrial advertising and marketing for the organization. He was formerly with McCarty Company before entering the Navy. Shafer has done much to publicize California-made heavy industrial products.

The Los Angeles district sales office of **Kaiser Company, Inc.,** Iron and Steel Division, has moved from the Pacific Mutual Building to Room 216, Chamber of Commerce Building, 1151 South Broadway, Los Angeles 15, Calif. The new telephone number is PRospect 9411.



Acme Steel Company's new steel and concrete building addition to its warehouse at its Pacific Coast division headquarters, 4903 Pacific Blvd., Los Angeles, was recently completed. Additional space is available to stock the company's steel strapping tools, stapling wire and machines.

Harvey L. Ballough has opened an office at 9615 Brighton Way, Beverly Hills, Calif., for business management services. Mr. Ballough specializes in organization and management surveys, control methods, sales analysis and industrial and public relations problems.

Walter Addison Watson has been appointed advertising manager of Hoffman Radio Corp., and will organize and direct a new department to handle all advertising, sales promotion, merchandising, publicity, public relations, and house organ activities of the company.

He has had twelve years experience in advertising, sales promotion, merchandising, publicity, public relations and house organ work. He was formerly advertising manager and director of public relations with Packard-Bell Radio Manufacturing Co. for four years.

C. H. Gueffroy has been elected as a vice-pres., of **Portland Gas & Coke Company,** in charge of by-products sales and market investigations, rate and regulatory matters, budgets, financial studies and related activities.

Fred A. Fowler, just returned from 27 months of service, has been promoted to sales-manager of the **Fowler Manufacturing Company,** S. E. 26th Avenue and Gladstone Street, Portland.

Earl F. Noyes has been made sales manager, Arrowhead Rubber Co., Los Angeles, in charge of developing new markets for Airtron Arrowhead's fibreglass-rubber.

Earl F. Noyes

Bethlehem Pacific Coast Steel Corp. will open offices in the Continental Bank Building, Salt Lake City.

Julian Bartee, San Francisco, who has been in production and national distribution of canned and frozen foods since 1928, has established his own company with offices in the Monadnock Building, 681 Market Street. He has been associated with Norman L. Waggoner, Inc., San Francisco, sales agents for Bercut-Richards Packing Company and Hemet Packing Company, resigning as vice-president and sales manager. The company acts as brokers and sales agents for a line of food and grocery products.

A. H. Witt has recently resigned as sales manager of Drayer-Hanson, Los Angeles refrigeration and air-conditioning manufacturers, to engage in business for himself under the firm name of "Witt Coils." The new organization will handle a complete line of commercial refrigeration coils and water coolers and will sell through jobbers.

His offices are located at 767 East Pico Boulevard, Los Angeles, Calif.

Edmond O. Rapier has joined Western Fiberglas Supply, Ltd., as Low Temperature Sales and Construction Engineer. For the past 15 years he has been a sales and construction engineer for cold storage plants.

Mr. Rapier came to the Pacific Coast in 1920. He is a native of Kentucky.

Louis P. Gainsborough of San Francisco, whose foreign trade affiliations in a number of countries bear the name of Login Corporation, announces the appointment of Dr. H. C. Mei of Shanghai as chairman of the board of the Chinese organization. Mr. Gainsborough's system provides for these companies to be operated by nationals of the countries in which they are located, even up to the top ranking positions.

Firman G. Hoyt

Firman G. Hoyt, salesman for the past six years at the Los Angeles branch of **John A. Roebling's Sons Co.,** of Trenton, N.J., has been promoted to position of product sales manager, Woven Wire Fabrics Division, and will have headquarters at Trenton. He succeeds W. K. Paff who retired after 50 years' service.

THE SHOWCASE

326

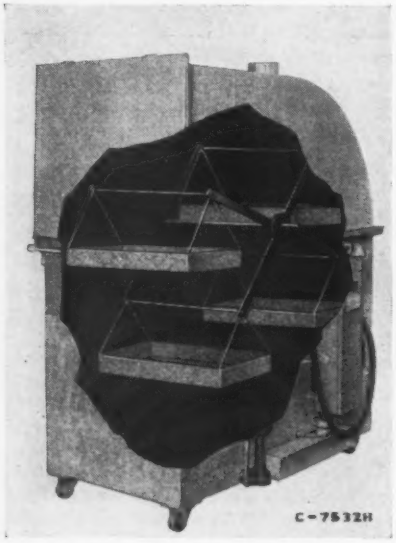
Pressure Reducing Regulator—The new small and compact Grove Mity-Mite Regulator weighs less than 2 pounds and measures roughly 2¾ x 3¼ inches, suitable for handling initial pressures up to 3,500 lbs. with adjustable control range from 5 to 1500 lbs. Capacity range is equal to regulators 10 times its size. Primarily designed for air and gases, including hydrogen, nitrogen, oxygen, etc., the unit can also be furnished for liquid service. It has stainless steel ports and is constructed of duraluminum. *Grove Regulator Co., Oakland, Calif.*

327

Airtron—A new material created during war for aircraft heating and ventilating is now available for other manufacturers as ducting for hot or cold air. Made of glass cloth and rubber, it provides high insulation qualities as well as great flexibility. Will not develop cracks under vibration. Can be used in heating, ventilating and air-condition of planes, trains, automobiles, buses and homes. Stands well over 50 pounds a square inch internal pressure at all temperatures. Is unaffected by air, light, water, gasoline, oil, and all but concentrated mineral acids. *Arrowhead Rubber Co., Los Angeles, Calif.*

328

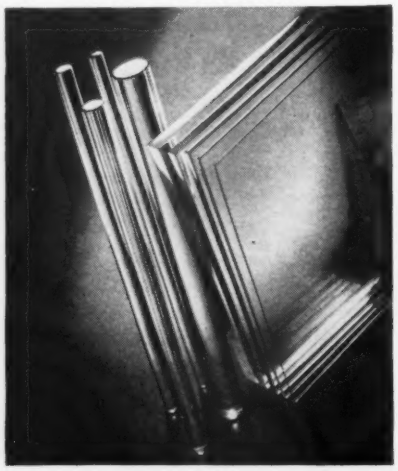
"Rotomatic" Vapor Degreaser—The new addition to the Phillips line of metal cleaning machinery is the Rotomatic vapor degreaser which brings both semi-automatic operation and a controlled cleaning cycle at moderate cost. The Rotomatic loading device is mounted on stand-



ard Phillips Vapor Degreasers and consists of a rotating frame from which baskets are suspended. Each basket is brought automatically to the opening for loading and unloading and is swung into the vapor bath for the correct cleaning time. Eliminates costly drag-out of solvent vapor. Unit is completely hooded. *Phillips Manufacturing Co., Chicago, Ill.*

329

Plexiglas—Plexiglas, a crystal-clear, virtually unbreakable acrylic plastic, is now available to general market in standard size sheets. Typical sizes are 36 x 48 inches and 40 x 50 inches—with thicknesses ranging from 0.60 to 2.50 inches—and in certain thicknesses up to 53 x 80 inches. Also manufactured in wide range of



transparent and translucent colors. Plexiglas can be used in the optical, electrical, mechanical, and chemical as well as aviation, marine, and automotive fields, and for home furnishings. *Rohm and Haas Company, Philadelphia, Pa.*

330

Alkacite—A series of corrosion-resistant coatings for industrial services in which the particle size of the solid content is reduced to .001 micron, available now. Alkacite penetrates surface, effectively blocks off moisture penetration, acid reaction, retarding corrosion, rotting and disintegration of structural material. Coating will not crack, alligator, check, loosen or scale, resists vibration, distortion and bend. Unaffected by temperature changes and may be applied to damp surfaces. *Protective Coatings Inc., Detroit, Mich.*

331

Inspection Machine—A new automatic electronic gaging instrument capable of automatically gaging a wide variety of small parts either metal, plastic, ceramic, glass or paper, has been developed. The machine can gage the depth of holes, external lengths and outside diameters to very close tolerances with high precision. It operates at a speed upwards of 3,300 pieces an hour, eliminating the human equation. Machine can be hopper fed. It is possible to gage dimensions with tolerances as small as .0001-inch with accuracy. *The Autotron Company, Danville, Ill.*

332

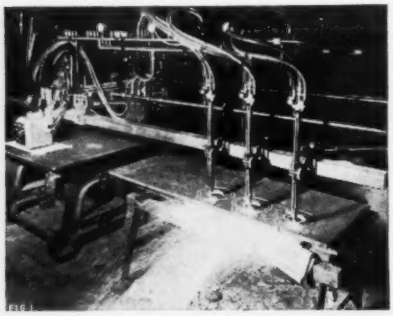
New Line of Gas Detection and Analysis Instruments—A new line of instruments for gas detection and analysis, including safety equipment for detection and analysis of combustible gas or vapor in air for the measure of gas or vapor air mixture from the characteristics of explosion, and detection of any one gas, whether combined or not with other gases is announced. *The Davis Emergency Equipment Co., Inc., Newark, N.J.*

333

"Plastitool"—A new plastic tough enough for use in making hammer heads yet attractive enough to substitute as tile, has been developed. In its natural form it looks like well-polished ivory. Can be used in making tools, art objects, household accessories, toys, bathroom fixtures, scenic casts for stage and motion picture sets, electrical insulators, water and acid proof vats for chemical laboratories. Easily mixed and baked, it weighs less than metals now in use and can be cut or otherwise machined like hard wood. *Duorite Plastic Industries, Culver City, Calif.*

334

Electronic Control for Oxyacetylene Cutting Machine—A new "electric eye" tracing device for pantograph type oxyacetylene cutting machines simplifies steel cutting operations and makes intricate design cutting practical. The new device applies to machine gas cutting in collaboration with General Electric Co., will be known as the "Electronic Bloodhound." It eliminates expensive metal and wood templates and me-



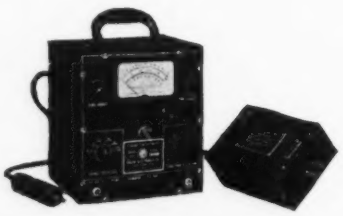
chanical or manual auxiliary guiding devices. Shapes can now be cut directly from a drawing. The electronic tracing equipment may be installed in place of the manual or magnetic tracing device on any Oxygraphy or Travograph cutting machine. *Air Reduction Sales Co., New York, N.Y.*

335

Spherical Bearings—Manufacturers of equipment or engines using self-aligning bearings or rod ends with self-aligning bearings installed, may now purchase Halfco Spherical bearings. Has an extremely high load capacity and a higher degree of mis-alignment. It is made from a one-piece bronze outer race into which is pressure-inserted a hard-chrome plate steel ball. *Halfco-Engineers, Manufacturers, Los Angeles, Calif.*

336

Vacuum Tube Voltmeter—A new product of Reiner Electronics Co., Inc., offers many advantages for laboratory work in industry. It is especially suitable for measuring amplifier gain, network response, output level at audio and



radio frequencies, as well as making production testing time saving. It permits comprehensive current and resistance measurements. *Reiner Electronic Co., New York, N.Y.*

337

Black Magic—A new pipe sealing compound and gasket cement which can be used for gasoline, oils, water, steam and other liquids except those containing alcohol or made with alcohol base is announced. Can be used for pump and tank work, oil burner installations, bulk storage and refinery piping, or wherever petroleum oils are used or stored. Makes joints leakproof but permits expansion and contraction of metals without cracking. *Bowser, Inc., Fort Wayne, Indiana.*

338

Automatic Gas Gun—A self-lighting, self-extinguishing acetylene torch is announced. Gas ignites with a pull of the trigger and extinguishes on its release. Fire hazards eliminated. Variations in flame, with temperature range of from 950-2,000 degrees are obtained by adjusting pressure regulator. Efficient torch for soldering, silver-soldering, fine, light brazing, and

lead burning, as well as aluminum soldering, sheet metal work, low-temperature welding, tinning, paint removing and equipment repair work. *Century Aircraft Co., Inglewood, Calif.*

339

Electric Lift Truck—Worksaver Electric Truck, with power for lifting and power for travel, has been added to Yale line. Available in two types—platform or pallet. Former is designed to handle single unit loads, consisting of a crate, bale, etc., or multi-unit loads on sides or in skid bins up to 6,000 lbs.; latter to handle single or multi-unit loads palletized up to 4,000 lbs. Platforms are available in seven different lengths, ranging from 36 inches to 72 inches, in 6-inch steps. Maximum overall length varies from 70¼ to 106¼ inches. Overall width is 31 inches and overall height is 27¾ inches. Rear wheels come in 6-inch, 7-inch, and 10-inch diameters. Safety features give operator complete control of truck on ramps. If handle is dropped by accident truck is halted immediately by automatic application of the brake and power cut-off. *Yale & Towne Mfg. Co., Philadelphia, Pa.*

340

Industrial Tractors—Gasoline-powered industrial tractors are in production. Compact and maneuverable, Towmotor tractor is especially suited for working in confined areas, narrow factory aisles, ship gangplanks, and in and out

of railway cars. New models embody numerous safety features, eliminating hazards in moving materials and operates economically. Lift trucks are available on civilian orders also. *Towmotor Corporation, Cleveland, O.*

341

Lead Wire—A new Deltabeston appliance lead wire for use where both heat and moisture are a problem is announced by General Electric's Appliance and Merchandise department. Wire is insulated with an acetate wrap next to conductor, a layer of felted asbestos and a lacquered glass braid over-all covering. Designed for use with appliances and equipment such as sterilizers where medium high temperatures and moisture are to be found. Maximum operating temperature 125 degrees C. Available in white, red, green, blue, brown or black. *General Electric Co., Bridgeport, Conn.*

342

Equipment for Testing Plastics—Southwark Division of Baldwin Locomotive Works has developed a combination flexure tool and deflectometer for testing plastic laminates, molded plastics and woods. New instrument makes tests in bending in accordance with latest federal specifications and those of the A.S.T.M., and will fit any testing machine. Instrument permits operator to adjust magnification of deflection in multiples of 5, 10, 20, 50, 100 and 200 times. Will fit inside a cabinet in which temperature can be controlled to measure tension, compression and flexure characteristics. *Baldwin Locomotive Works, Philadelphia, Pa.*

343

Safe Non-Skid Floors—A preparation for wood, cement or metal floors that are subjected to heavy abuse has been developed. Acid and oil resistant it may be applied with brush or trowel making it possible to place where clearance may be as little as 4 inches. Will withstand light trucking and finish does not accumulate dirt and dust. Available in five colors. Before applying any cracks, breaks, ruts or holes should be patched first with either Stonhard resurfacer, Stonhard stonpatch or Stonhard concretite. Sets in 24 hours. *Stonhard Company, Philadelphia, Pa.*

344

"Curved Clearance"—A new tool grinder with a "curved clearance" providing maximum support behind the cutting edge, is announced by Joshua Hendy Iron Works. The "Standard" Hendy-Larsson Reamer and Cutter Grinder is equipped with a 30-inch sine bar for the grinding of taper reamers to accuracies of .0001-in. or closer. The "Junior" model with a 20-inch sine bar, is an attachment unit that will fit on any standard cutter grinder. Three adjusting dials

eliminate necessity of checking clearances and reduce set-up time to a minimum. The machine is set to proper cutter diameter, the clearance slide adjusted, the cutter wheel dressed, and grind proceeds. Clearance, once established, can be duplicated indefinitely. Booklet describing reamer and grinder for both models available. *Joshua Hendy Iron Works, Sunnyvale, Calif.*

(Continued on page 96)

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Please send me information on the following items:.....

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Name.....***Title***.....

Company.....

Address.....

SHOWCASE *(Cont'd from pg. 95)*

345

Constant Speed D.C. Motor—A motor small enough to be held in the palm of the hand supplies A.C. motor performance to the D.C. market. Adaptable to synchronous operation formerly possible only through use of A.C. current. Simple in design and ruggedly constructed for

land, aircraft or marine use. Is self-starting and builds up full speed almost instantly. Current consumption extremely low, shaft speeds may be geared from 1 revolution every 24 hours to 600 r.p.m. Also provides an auxiliary motor where batteries are used as "stand-by" equipment. *Amglo Corp., Chicago, Ill.*

346

Cold Tank Cleaner—Fuzee, cold tank cleaner, now available. A new dip-tank container is optionally obtainable. A metal dip rack has been developed to fit standard five-gallon container, thus providing simple means for cleaning small parts by immersion. Acts as a self-sealing compound for use in cold tank immersion cleaning of pistons, fuel pumps, carburetors, etc., removing stubborn carbon, engine varnish and other adhesive dirt. A seal floats on the compound which practically eliminates fumes. *Turco Products, Inc., Los Angeles, Calif.*

347

Bag-Holding Truck Improved—An improved design has been developed on the bag-holding truck of the Chicago Mfg. and Distributing Co. It accommodates any size bag which is attached to the spreader band without adjustment. Height of the spreader band can be quickly set at any position from 18 inches to 40 inches high. Bag is held in position by five strong malleable iron cam locks that will not break or get out of order. It is claimed that the more weight held in the bag the tighter the grip. Base is made of malleable iron casting mounted on 6-inch or 8-inch diameter wheels. *Chicago Manufacturing & Distributing Company, Chicago, Ill.*

348

Die Casting Machine—Of the same basic design as their standard model 400-A Die Casting Machine, only larger in size, the Hydraulic Press Manufacturing Company has completed a high pressure die casting machine to cast 14.88 pounds of aluminum alloy per "shot" at an injection pressure of 25,000 psi. This weight represents a casting volume of 154½ cubic inches. Both mold clamp and injection plunger are actuated by direct hydraulic means. The machine is powered by two H-P-M hydro-power radial pumps directly connected through flexible couplings to a 100-HP double-end shaft motor. Machine is completely self-contained. Only connections required to put machine in operation are electric power and cooling water. Movable mold clamp platen is equipped with hydraulic ejector. Operating system is designed for installation of hydraulic core pulls. *The Hydraulic Press Mfg. Co., Mount Gilead, Ohio.*

349

Hydraulic Bending Press—A new hydraulic press, Pacific Model 325, for bending, braking, shearing, multiple punching and similar operations, is announced. Press has working pressure of 325 tons and maximum pressure of 395 tons. A 12-ft. ram will operate parallel with bed. Delivers maximum pressure at any point in stroke, micrometer stroke adjustment, good work clearance overhead. *Equipment Sales Co., Inc., Oakland, Calif.*

350

Portable Belt Conveyor—A new, all-purpose, inclined, declined or horizontal portable belt conveyor designed for carrying bags, boxes, crates, cartons is available. Can be used as an individual unit to reach from one fixed position to another or as connecting link. *Standard Conveyors, North St. Paul, Minn.*

351

Hydraulic Presses—Versatile line of positive self-contained hydraulic presses is announced. Available with self-contained motor drive for production work, foot operated, either mounted with bottom of press open or flush. Available in

capacities of 4½-7-10-15-20 and 25 tons, with means to limit pressures as low as required, the presses may be used for push-broaching, forming, blanking, drawing squeeze assembly of bushings, etc.; straightening, shot-pushing, etc. Catalogue available. *Munton Manufacturing Co., Franklin Park, Ill.*

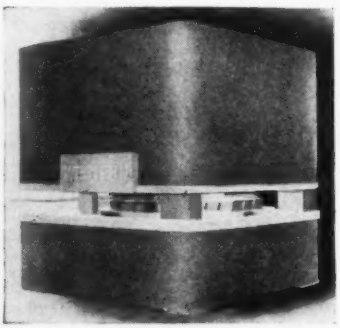
352

All-Magnesium Alloy Truck—This new truck built by Service Caster & Truck Division, Domestic Industries, Inc., Albion, Mich., weighs 103 pounds less than the same truck made of steel and 1/3 less than aluminum. It has a ca-

pacity of 6,000 pounds and was built in co-operation with the foundry division of Hills-McCanna Co., Chicago. The lighter weight means greater pay loads, easier operation and less physical fatigue. *Service Caster & Truck Division of Domestic Industries, Inc., Albion, Mich.* (Garrett Gething)

353

Western Tile Press—The Western four-position rotary type tile press, designed to produce 800-1200 sq. ft. of finished tile per hour and completely operated and controlled hydraulically. Press uses a new, patented die case which will take 9 pieces 4¼ in. square, 4 pieces 6 in. square, or any combination of smaller sizes that will fit within a 13 in. square, making it



adaptable for pressing majority of structural ceramic products. Overall dimensions—width 81 in., depth 70 in., height 107 in. Total weight, 25,295 pounds. A 15 h.p. 1200 rpm electric motor provides power. Detailed information available. *Hufford Machine Works, Inc., Redondo Beach, Calif.*

354

Mounted Point Utility Kits—Four Abrasive Company Mounted Point Utility Kits are now available. Utility Kits contain mounted wheels and points and Electrolon dressing stick for dressing the points and altering shapes for special applications. Usable on all high speed grinders whether air, electric or flexible shaft. Literature available. *Abrasive Company, Philadelphia, Pa.*

YOURS FOR THE ASKING

1874

Arc Welding Machine Booklet—Wilson "Bumblebee" alternating current transformer arc welding machines are described fully in a 16-page booklet published by Air Reduction, New York City. Sections are devoted to small transformer type alternating current welders, running gear, remote control, a complete line of shielded arc electrodes for AC welding, engineering data and complete specifications. *Air Reduction, New York, N.Y.*

1875

Lyon-Raymond Hydraulic Elevating Table—A four-page booklet describing the Lyon-Raymond hydraulic elevating tables and optional equipment is available. Features of the table are illustrated. *Lyon-Raymond Corp., Greene, N.Y.*

1876

Know How—Commercial Iron Works, Portland, Ore., has published a pictorial brochure of its war record, containing a comprehensive presentation of the company's personnel and facilities. Practical statistical information and a detailed plot plan of the plant are augmented by a thumbnail sketch of the firm's history, beginning with its founding in 1916 as a foundry and machine shop and covering its expansion into engineering, ship construction and ship repair. Machines designed by engineers of the company which saved time and assured accuracy are pictured. *Commercial Iron Works, Portland, Ore.*

1877

"Thread Plug and Thread Ring" Gages—A new eight-page catalog gives specifications and prices of the gages. The clearance below the roots of the threads which materially increases gage life is illustrated. *Locke Gage Company, Detroit, Mich.*

1878

Inserted Blade Cutters—Milling cutters of the more commonly required types and sizes are described in a 24-page booklet. Interesting illustrations of special application cutters and cutter sharpening suggestions are included. Booklet 1045. *Midwest Tool & Mfg. Co., Detroit, Mich.*

1879

Wet Seal Gas Holders—The design and construction of telescopic wet seal gas holders is described in a 50-page bulletin published by Stacey Brothers Gas Construction Co., one of the Dresser Industries. Valuable engineering data on welding technique, pressure, painting surface, corrosion and general dimensions of all sizes of gas holders up to 10 million cu. ft. are discussed. Cross sections are shown. Valuable to gas plant operators as guide to efficient operation and maintenance of wet seal gas holders. *Stacey Bros. Gas Construction Co., Cincinnati, O.*

1880

Catalogs from Goodrich—A guide book for industrial designers, describing rubber and synthetic products, their physical and chemical properties, applications and advantages is available. Also available are a new catalog, section 2100, on its line of transmission belting; and a 38-page booklet on industrial tires, "How to Save Money on Industrial Hauling Jobs and Equipment." *B. F. Goodrich Co., Industrial Products Division, Akron, O.*

1881

Hydraulic Units—Self-contained L-type hydraulic units are described in bulletin 302-U, together with complete descriptions and specifications. *John S. Barnes Corp., Rockford, Ill.*

1882

Everlasting Valves—Latest developments in lever-operated gate valves are described in a 16-page bulletin E-150, showing industrial and process line applications for which the valves are particularly advantageous. Features of the Everlasting Valves are included. *Everlasting Valve Company, Jersey City, N.J.*

1883

Wheelabrator Swing Tables—Complete information about the Wheelabrator Swing Table which utilizes the Wheelabrator airless abrasive blasting unit, handling intricate or irregular shaped work formerly cleaned in air blast rooms in jobbing foundries, is described in catalog No. 214. Detailed information available. *American Foundry Equipment Co., Mishawaka, Ind.*

1884

Sutton Collets—A new booklet just published describes and illustrates Sutton Collets. The new Full-Floating Collet with interchangeable and replaceable jaws is illustrated as well as the standard types. *Sutton Tool Co., Sturgis, Mich.*

1885

Economic Characteristics of Albuquerque—The Albuquerque Chamber of Commerce has made an extensive study of economic characteristics and the trade area reached by Albuquerque, tabulating its resources, which might prove of interest to potential manufacturers. *Albuquerque Chamber of Commerce, Albuquerque, N.M.*

1886

New Stamping Company—A booklet describing facilities of a new short run stamping company equipped to handle small run stampings, making its own special die from supplied blue print or sample, and delivering stampings in record time. *Federal Tool & Manufacturing Co., Minneapolis, Minn.*

1887

Management Prerogatives—Prerogatives of management as defined in union contracts are prepared in bulletin form by Verna L. Pace, research assistant for Industrial Relations Section. Bulletin contains specimens of clauses and selected reading list on the subject. *Industrial Relations Section, California Institute of Technology, Pasadena, Calif.*

1888

Management Engineering—The functions of modern management engineering, are explained in a 20-page brochure just published by Methods Engineering Council. It includes a section on general management services, followed by discussions of the Council's work in methods engineering, training, plant layout and design, job evaluation, wage incentive plans, and personnel appraisal. Charts are liberally used. *Methods Engineering Council, Pittsburgh, Pa.*

1889

Container Equipment—Steel container making equipment is described in a booklet offered by the Federal Machine and Welder Co. Barrels are illustrated in the making. *The Federal Machine and Welder Co., Warren, O.*

1890

San Francisco and the Bay Area—An economic survey and yearly review has been prepared by the Research Department of San Francisco Chamber of Commerce. Business Facts, Market Analysis, Resource Appraisal Summary, together with the General Picture and Life in the Bay Area, are discussed. *San Francisco Chamber of Commerce, San Francisco.*

1891

"Resyn Adhesives—When and How to Use Them"—The title of a reprint of its handbook includes additional information on selection and use of synthetic resin adhesives for peacetime packaging, converting and assembling operations. Classes of adhesives—lacquers, hot-melts, and emulsions—are included. Thermoplastic and thermosetting types are defined and properties of all are detailed. *National Adhesives, New York, N.Y.*

1892

Fiftieth Anniversary of X-Ray—North American Philips Co. has published both a booklet and a calendar commemorating the discovery of X-ray by Roentgen. The story of X-ray from 1895 to 1945 and the role played by Philips is told in the booklet. Copies of both calendar and booklet available. *North American Philips Co., Inc., New York, N.Y.*

1893

Production Planning Cards—Planning cards and data sheets are available without charge. Offered for use in reconversion, in providing for expanded facilities or in new building plans. Building contractors and architects will also be interested. *Plan-O-Mill Corp., Hazel Park, Mich.*

1894

Cartridge and Plug Fuses—A new 32-page catalog on G-E cartridge and plug fuses has been published by General Electric's Appliance and Merchandise Department. It contains full specifications on all fuses in the G-E line and other fuse information. Detailed descriptions given of construction of G-E non-renewable and renewable cartridge fuses. Chapters on fuse care, operation, characteristics and maintenance. *S. C. Schuler, General Electric Co., Bridgeport, Conn.*

1895

Review in Color—Products of Baker & Co., Inc., largest organization in world devoted to refining and working of the platinum metals, gold and silver, are illustrated in color in a 8-page booklet. Platinum laboratory ware, spinnerettes for synthetic fibres, platinum gauze for ammonia oxidation, platinum mass catalysts, thermo-element wires, plating-salts and solutions, the Baker Bright Annealing and Brazing Furnace are among those pictured. Also available, "Data Concerning Platinum." *Baker & Co., Inc., Newark, N.J.*

1896

Supervision—Seven aids to better supervision, a handbook written to help foremen, supervisors and department heads meet current and future employee relations problems, now and during reconversion and postwar production are described in an illustrated catalog. *Elliott Service Co., Dept. M-68, New York, N.Y.*

1897

"Facts About Crush Form Grinding Precision Contours"—A new booklet describing features of the Thompson crush form contour grinders is available. Machines and methods are illustrated profusely. *Thompson Grinder Co. of Springfield, O.*

(Continued on page 98)

YOURS FOR THE ASKING *(From Pg. 97)*

1898

Research Projects—A 16-page booklet explaining services of Hungerford Research Corp., in development of new and improved products. Company specializes in application of powder metals and plastics to mechanical and electrical equipment. *Hungerford Research Corp., Murray Hill, N.J.*

1899

Golden Jubilee—A booklet reviewing the Barnes Manufacturing Co.'s 50 years of progress and which records for the first time the story of Barnes' participation in World War II is available.—*Barnes Manufacturing Co., Mansfield, O.*

1900

Air Separator—Bulletin S-13, 4 pages, describes the Airfuge, combination air separator and trap for users of compressed air tools and operations. Discusses need for clean dry air for protection of pneumatic equipment. *The Swartwout Co., Cleveland, Ohio.*

1901

Sealedpower Motors—A 4-page bulletin describing the Crocker-Wheeler Division's sealedpower motor is available. Contains a detailed description of features of the motor, including cutaway view and pictures of six typical applications. Laboratory tests made before motor was marketed are illustrated and described. Motor suitable for use in dusty locations or where excessive moisture is common. *Crocker-Wheeler Division, Joshua Hendy Iron Works, Ampere, N. J.*

1902

Gauging Problems — Abdite Gauge Co. has published a 32-page, pocket-sized booklet devoted mainly to compilation of information published by National Bureau of Standards, U. S. Dept. of Commerce. Diagrams and charts included. Brief history of company and its owners included. *Abdite Gauge Co., Dearborn, Mich.*

1903

Concrete Floor Protection Hints—A booklet describing how to protect concrete floors is available. Action of Lapidolith liquid floor hardener in protecting against disintegration from concrete dust; acids, salts and alkalies; alternate freezing and thawing; and mineral, vegetable and animal oils. *Building Products Division, L. Sonneborne Sons, Inc., New York, N. Y.*

1904

Rotary Kilns—Leeds & Northrup's complete line of instruments for rotary kilns are described in new catalog, N-00-664 (1), "Rotary Kiln Operation Improved Through Instrumentation of Temperature, Draft and Speed." *Leeds & Northrup Co., Philadelphia, Penna.*

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INDEX TO ADVERTISERS THIS ISSUE

	Page
Acme Steel Company	87
Aladdin Heating Company	87
American Rubber Mfg. Co.	15
Anaconda Copper Mining Co.	4
Anaconda Wire & Cable Co.	4
Angier Sales Corporation	68
Bank of America	22
Brooks Equipment Company	66
Caine Steel Company	19
California Barrel Company, Ltd.	3rd Cover
California Spring Company, Inc.	70
Chain Belt Company	21
Coldwell, Banker & Company	85
Colson Equipment & Supply Co.	71
Commercial Iron Works	59
Consolidated Steel Company	13
Conveyor Company, The	57
Crocker First Nat'l Bank	73
Danly Machine Specialties, Inc.	6
De Young Bros. Machinery Co.	88
Downs Crane & Hoist Company	80
Electronic Research Associates	73
Engineering Products Company	65
F. A. B. Manufacturing Company	73
Fairbanks Company	86
Food Machinery Corporation	86
Fruehauf Trailer Company	8
Garratt-Callahan Co. of Calif.	80
Gibson, William D., Co.	72
Grinnell Company, Inc.	9
Gruendler Crusher & Pulverizer Co.	90
Harnishfeger Corporation	10
Hilliard Corporation, The	84
Hyster Company	51
Isaacson Iron Works	82
Johns-Manville Corporation	20
Johnson Manufacturing Corp.	82
Johnston, A. P., Company	75
Jorgensen, Earle M., Company	23
Kelite Products, Inc.	84
Maas, A. R., Chemical Co.	64
Maltby, Edward D., Co.	91
Marine Engineering & Supply Co.	62
Marwood Limited	63
Master Electric Company	74
McCarty Company, The	49
Moore Business Forms, Inc.	12
Oakite Products, Inc.	90
Oliver Tire & Rubber Co.	81
Pacific Coast Acousti-Celotex Distrib'rs.	14
Pioneer Rubber Mills	58
Punch-Lok Company	90
Rapids-Standard Company	88
Raymond, Albert, & Assoc., Inc.	98
Reconstruction Finance Corp.	55
Redington, F. B., Company	75
Revere Copper & Brass, Inc.	24
Ridge Tool Company	85
Service Caster & Truck Co.	83
Sharpe Manufacturing Co.	88
Signode Steel Strapping Co.	11
Smoot-Holman Company	60
Standard Oil Company	26
Stauffer Chemical Company	17
Stephens-Adamson Mfg. Co.	4th Cover
Stonhard Company	89
Stuart Oxygen Company	75
Thaler Pipe & Supply Co.	69
Thomas Truck & Caster Company	91
Tide Water Assoc. Oil Co.	18
Towmotor Corporation	16
Tubbs Cordage Company	56
Victor Equipment Company	2nd Cover
Warman Steel Casting Company	74
Western Asbestos Company	3
Western Pipe & Steel Company	53
Westland Drawn Steel Company	61
Wrigley, Jr., William, Co.	67

Rental Rates on Convair Plant

Reconstruction Finance Corp. has set rental rates on Consolidated Vultee Aircraft Corp. Plant No. 2 at San Diego, paving the way to possible reconversion of the plant under lease to a number of small manufacturers.

Rates based on a valuation of $5 million will be 25 cents a square foot a year for the main factory building, two cafeterias and office building; 15 cents for balconies and warehouses, 2 cents for parking lots and other outside areas. These costs compare with 36 to 60 cents for private industrial space in San Diego.

R.F.C. rates are exclusive of taxes, insurance and utility costs. Taxes now amount to about 18 cents a square foot, but it is hoped a reappraisal of the idle property will reduce taxes considerably. Convair has offered to manage the property on R.F.C.'s terms, leasing it to small manufacturers.

Two applicants for space are new concerns with $375,000 paid-in capital, which will manufacture heaters and tile.

Olin Won't Buy

Olin Industries, Inc., cannot at this time purchase or lease the Tacoma aluminum plant which it operated for the Government during the war, John M. Olin, president, has announced. Recommendations are being made to the Government that the Tacoma plant be closed in a stand-by condition, which would permit resumption of production at a minimum cost should future developments require it.

WHEREVER A PRODUCT GOES, IT GOES IN A CONTAINER

When You Think in Big Terms...

When you think in big terms—acres of lettuce or thousands of water heaters—then you necessarily turn from the "one-wheel express" to rapid transit and modern containers. Like operating a railroad, designing and building shipping containers is a job for experts. For more than sixty years Cabco have specialized in wooden containers. Their experience covers everything from a flour barrel to a furnace crate. Cabco containers are designed for maximum protection with the minimum tare weight.

Whether your shipments are local or global, it will pay you to investigate the many advantages which may be afforded through the use of Cabco containers. Such investigation will incur no obligation, of course.

CABCO CONTAINERS

DESIGNED TO FIT—ENGINEERED TO PROTECT

CALIFORNIA BARREL CO., Ltd.

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A Partial List of Cabco Containers

CABCO TUB BASKETS
For potatoes, sprouts, peas & other vegetables.

SLICED Unitized COVERS
For all fruit and vegetable containers.

ALL-BOUND BOXES
Thin wood veneer, stitched with steel wire. No hammer, no nails needed—open or close with bare hands.

CABCO BARRELS
Tight or slack barrels and kegs made from Douglas Fir for anything from sugar to soap, molasses to vinegar.

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1069

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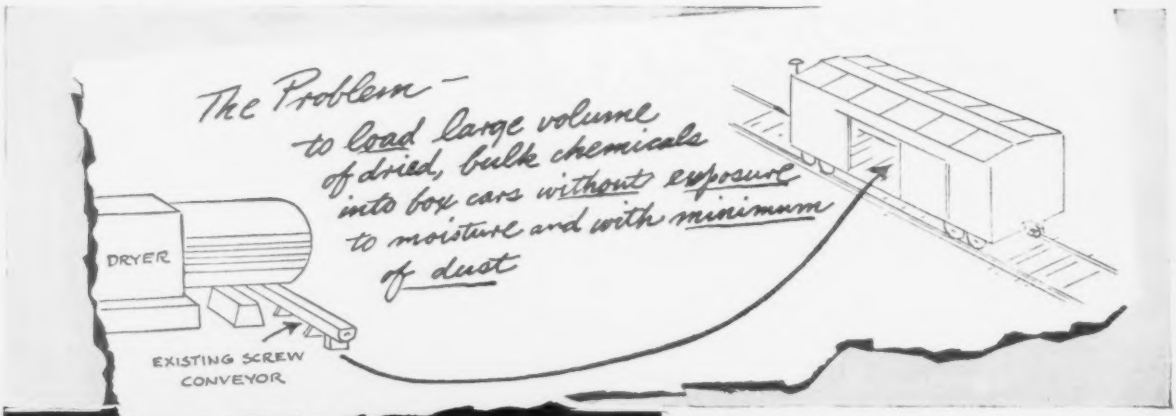

The Problem —
to load large volume of dried, bulk chemicals into box cars without exposure to moisture and with minimum of dust
DRYER
EXISTING SCREW CONVEYOR

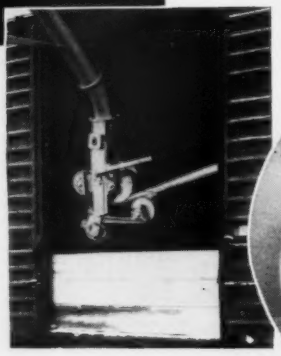
Redler loop-boot elevator, which conveys bulk chemicals from screw conveyor to gravity loading spout. A Box Car Loader can be wheeled, from platform shown, inside the car door.

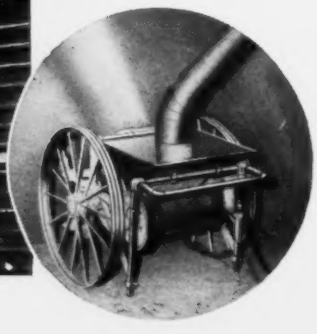
How S-A *Equipment* Protects the Chemical and Loads It Fast

At this plant bulk chemical is dried to save weight and transportion cost. The problem was to carry to and fill box cars.

The S-A solution was a 7″ loop boot, inclined Redler elevator, a gravity spout and an S-A Box Car Loader. The Redler loop boot, with low loading point, permits use of existing screw conveyor without a pit. The inclined casing delivers with minimum carry to the gravity spout. This spout will fill cars direct, or the S-A Loader can be wheeled in and will throw to the ends of the longest box car.

Result, another successful S-A installation handling bulk materials at low cost.





Two Fast S-A Ways of Loading Cars

An S-A Box Car Loader, in either the swivel or the wheel-mounted type, will enable you to load cars at the rate of 40 to 80 tons per hour, depending on the type and weight of material handled.

S-A Loaders take loose, granular, or lump materials up to 2 inches in particle size.

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